

Embedding Financial Viability and Sustainability

February
2021

The purpose of this paper is to review the RIC's approach in the first price review towards assessing financeability and to determine whether this approach remains valid, as well as discuss how the RIC will respond to potential financeability issues in the future.

Consultative
Document

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1. INTRODUCTION

1.1 Background

One of the primary duties of the Regulated Industries Commission (RIC) is to ensure that the service providers under its purview are financially viable by reviewing and setting price limits every five years. In conducting the first price review¹ for the electricity transmission and distribution sector the RIC ensured that T&TEC was able to finance its functions by enabling T&TEC to earn a return on the Regulatory Asset Base (RAB) equal to the cost of capital, as well as facilitating financing for T&TEC's capital expenditure.

To assess the impact of this proposed tariff structure on T&TEC's "financeability"² over this regulatory control period, the RIC applied a financeability test by computing five financial ratios for each year of the price control period and comparing the projected financial ratios against the "best practice" values for these ratios.

1.2 Purpose of the Document

The purpose of this paper is to review the RIC's approach to determining financeability in the first regulatory control period and to determine whether it remains fit for purpose for the second control period. A discussion on the challenges to facilitate financeability for T&TEC will also be presented.

¹ The regulatory period for the first price review was 2006-2011

² Financeability refers to the need for the price limits set by a regulator to be sufficient for an efficient utility to raise the finance needed to invest, so that it is able to meet its service requirements. See Section 2 for full discussion.

1.3 Responding to this Document

All persons wishing to comment on this document are invited to submit their comments.

Responses should be sent by post, fax or e-mail to:

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All responses will normally be published on the RIC's website unless there are good reasons why they must remain confidential. Any requests for confidentiality must be indicated.

The deadline for submission of comments is 4.00pm on **March 5th, 2021**.

2. RIC's LEGISLATIVE OBLIGATIONS

The RIC is required under its Act to set price controls every five years. The RIC Act also sets out the factors/objectives that must be taken into account in making its price determination. The Act places obligation on the RIC to ensure that service providers are capable of financing their operations as specified by Section 6(1) of the Act, which states that:

“the service provided by a service provider operating under prudent and efficient management will be on terms that will allow the service provider to earn sufficient return to finance the necessary investment”.

The RIC Act also specifies a range of matters that the RIC is required to consider in making its pricing decisions, including:

- the maximum efficiency in the use and allocation of resources to ensure as far as reasonably practicable, that services are reliable and provided at the lowest possible cost;
- the replacement capital cost expended, least-cost operating expenses which may be incurred, annual depreciation, return on the rate base;
- the funding and ability of the service providers to perform its functions;
- the interest of shareholders of the service provider;
- the ability of consumers to pay rates; and
- the standards of service being offered by the service provider.

It is quite evident that the RIC is directly and, in some cases, indirectly obliged to consider whether its pricing decisions are likely to adversely affect the financeability of a prudent, efficient service provider. However, in considering the above matters, the RIC must balance the diverse needs and interests of different stakeholders.

3. APPROACH TO ENSURING FINANCIAL VIABILITY AND SUSTAINABILITY

Given the RIC's obligations under its Act, financeability can be interpreted as the duty placed on the RIC to ensure that a service provider under its purview, is able to finance its functions. This duty has two components:

- enabling the service provider to earn a return on its regulatory asset base (RAB) that is at least equal to its cost of capital; and
- enabling the service provider to raise finance on reasonable terms.

The RIC's approach to ensuring financial viability for the first regulatory control period (2006-2011) was to first estimate the revenue that will be required by T&TEC to meet its full and efficient costs over the regulatory control period. The RIC utilized the building-block method³ (**Figure 1**) to calculate these costs, which included all efficient operating and maintenance (Opex) costs, plus allowances for returns on and of T&TEC's regulatory asset base (RAB)⁴. At that time, generation and fuel costs comprised almost 70% of total Opex⁵, and were treated as pass-through costs, with minor adjustments for heat rate efficiency. In calculating the allowance for return on⁶ T&TEC's assets, the RIC determined the appropriate rate of return and the regulatory asset base (RAB). In this regard, the RIC guaranteed a return to finance the functions at the cost of debt rather than at the weighted average cost of capital (WACC).

In estimating the yearly revenue requirements, the RIC also allowed T&TEC to pass through its **actual** debt costs (embedded debt), as T&TEC carried high-cost embedded debt of 11.87%, compared with the allowed cost of capital of 8% for the first rate determination. The RIC also decided to compensate for inflation through indexation of the RAB. These measures reduced the

³ The building blocks approach establishes the targeted revenue requirement for a year based on a collation of separate benchmarks for the various component costs; this is otherwise known as the base year. In forming a stance on the allowable cost for each cost component, a variety of different approaches may be taken, including setting a benchmarked Weighted Average Cost of Capital (WACC) as well as utilising a combination of various secondary techniques such as yardstick benchmarking and econometric analysis. Partial productivity factor analysis can also be used to derive forecasts for particular cost component.

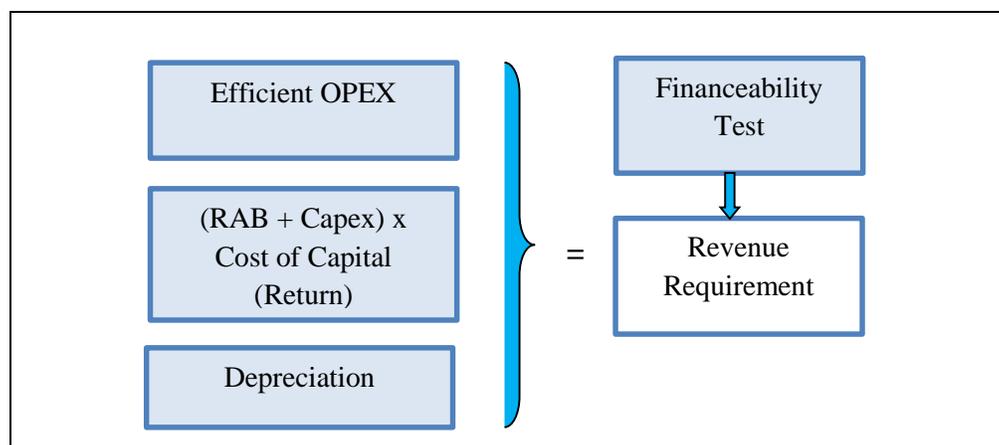
⁴ Return of capital refers to the allowance for regulatory depreciation.

⁵ Based on T&TEC's financial data for the year 2019, conversion and fuel costs constitute about 50% of T&TEC's total costs.

⁶ The formula for return on capital is the Weighted Average Cost of Capital (WACC) x (Regulatory Asset Base + Working Capital).

likelihood of a mismatch between T&TEC’s revenues and costs in the short to medium term, which can give rise to financeability issues. A key consideration was to ensure that the revenues, profits and cash flow were such that T&TEC could secure financing in a timely manner and at a reasonable cost.

Figure 1 - Overview of the Revenue Requirement Calculation



Additionally, the RIC included an explicit assessment of the financeability of its proposed revenue requirement by computing five financial ratios based on a notional⁷ gearing ratio. The ratios that were used to assess financeability were as follows⁸:

- **Funds Flow Interest Cover (times):** $(\text{Funds from Operations (FFO)} + \text{Net Interest}) / \text{Net Interest}$. Measures the level of coverage (protection) the utility has to meet its interest obligations after meeting its cash operating expenses.
- **Debt Payback Period (years):** $\text{Net Debt} / \text{FFO}$. Measures the length of time that the entity could retire its debt if it devoted all cash flows (after meeting cash operating expenses).
- **Funds Flow/Net Debt:** $\text{FFO} / \text{Net Debt}$. Measures the extent to which the utility’s serviceability of debt is improving or declining.

⁷ Estimated. See Section 4.2 below for more information.

⁸ More detail on these ratios can be found in ‘T&TEC’s Annual Performance Indicator Report for The Year 2018’, published on the RIC’s website at www.ric.org.tt

- **Internal Financing Ratio (%)**: $(\text{FFO} - \text{Dividends}) / \text{Net Capex}$. Measures the extent to which an entity has cash remaining to finance prudent capital expenditure after dividends (if any).
- **Debt as a proportion of the RAB (%)**: $\text{Net Debt} / \text{RAB}$. Measures the debt component in the regulatory capital structure.

These cash-based financial ratios are central to the assessment of financeability and are used for evaluating the strength of cash flows by both regulators and rating agencies where applicable. The financial ratios for T&TEC for the first regulatory control period were compared with “best practice” targets for privatized utilities whose shares are traded on the stock markets⁹. The RIC noted that complying with all the ratios would not only be challenging (as T&TEC’s tariffs were last adjusted about 16 years prior to the establishment of tariffs for the first regulatory period) but may not be totally desirable for a State-owned entity which is funded by customer charges and debt. The RIC, therefore, indicated that the trend of such financial indicators, considered as a package, was more important than the absolute figures for any particular indicator in any particular year. Consequently, no allowances or upliftment in revenue was made to ensure that T&TEC’s financial ratios achieved “best practice” targets.

⁹ A key indicator for these utilities is the credit rating that credit rating agencies such as Moody’s and Standard & Poor’s assign them. If their rating falls below investment grade, they may have difficulty raising finance at a cost they can afford, thereby threatening their financial viability.

4. CHALLENGES IN REGULATING FOR FINANCIAL VIABILITY AND SUSTAINABILITY

4.1 Building-block Approach and Financeability

The building-block approach utilized by the RIC allows the service provider to recover all its efficient costs over the life of its assets. As long as the cost of capital and other variables/factors are estimated correctly, the building-block method should ensure long-term financial viability of the service provider. In fact, some regulators maintain that a financeability problem should not arise under this method and, therefore, there is no need to even cross-check by the use of financial ratios. However, financeability issues can arise during the short to medium-term due mainly to: a mismatch between revenues and costs under the building-block approach; and poor financial management and/or excessive costs.

4.1.1 Mismatch between costs and revenues

This may arise for a number of reasons even if the service provider is efficient. A mismatch can occur due to:

- **A mismatch between the asset lives and the term of financing.** The building-block method recovers the costs over the whole of the asset lives whereas the service provider may be only able to access ten to fifteen-year financing or less. Therefore, financing costs may have to be paid over a much shorter period.
- **Benchmarking or comparative efficiency assessment inaccuracies.** The RIC makes use of benchmarking or comparative efficiency assessments for certain aspects of costs and getting these targets wrong can have adverse effects on service provider's ability to finance its needs.
- **A mismatch between real price paths and nominal financing.** Through the building-block approach, regulators provide sufficient revenues for service providers to operate based on real terms, with a real cost of capital. However, the service provider operates via financing from banks at nominal terms. Therefore, at least in the early years, the actual cost of financing is going to be greater than the allowance under the building-block approach. In the first determination for T&TEC, the RIC provided financing in nominal terms to lessen the effect of this mismatch.

- **Compensation for inflation¹⁰.** The key issue here is the way in which regulators choose to inflate the RAB in line with the retail price index, so that compensation for the effects of inflation comes mainly¹¹ through depreciation of the RAB over time. Regulators generally spread compensation for inflation over successive control periods, as depreciation is generally profiled over periods of 30 years or more. In contrast, debt is structured so that the annual interest is set in nominal terms, compensating lenders for effects of inflation on an on-going annual basis and the service providers pay back the original (inflated) principal after a fixed period of time. In the first price review, the RIC made the decision to index the RAB.
- **The lumpy nature of significant new investment.** Here mismatches become more significant when there is a large amount of new investment to be undertaken. This is not important if there were a steady stream of capital expenditure and uniform age distribution of assets.

4.1.2 Poor Financial Management/Excessive Costs

The RIC's view is that poor management of financial resources by service providers should not be passed unto rate payers, as it would blunt the incentives for efficiency improvements by the service provider. For example, one of the major factors affecting the financial stability of T&TEC during the first control period was T&TEC's failure to implement the RIC's approved Capex and instead fund either ring-fenced projects (that is, those not approved by the RIC for varying reasons) or to fund operating costs which were deemed to be inefficient. Additionally, the funds allocated to service the National Gas Company (NGC) debt were re-directed to these projects. T&TEC's financeability was affected in a number of ways, including:

- i. T&TEC's net cashflow for approved projects was lower, as internally generated funds were utilized for ring-fenced projects.
- ii. T&TEC staff and associated costs (which were allowed in the determination) were used for ring-fenced projects. When actual allowed projects are completed, overtime was incurred that would not have been provided for in the determination.

¹⁰ A full discussion on the RIC's approach to the treatment of input price inflation, for the second price review for the electricity transmission and distribution sector can be found on the RIC's website at www.ric.org.tt.

¹¹ Some compensation is also provided as the (real) cost of capital is earned on the index-linked RAB, but these amounts are small in years immediately after an investment is added to the RAB.

- iii. Due to T&TEC personnel being utilized to complete ring-fenced projects as a priority, normal maintenance works were delayed and thus reactive maintenance was done rather than preventative. This creates additional expenses.

Additionally, the monitoring of performance was also affected as ring-fenced projects were not separately costed and reported.

4.2 Notional or Actual Gearing Ratio

The research undertaken by the RIC suggests that in practice, preferences vary and some regulators used notional gearing while others use actual gearing ratio of the service provider. In fact, many regulators use notional gearing ratio in the building-block model and actual gearing ratio in the financial ratio analysis, as this may reflect commercial practice more closely. It is generally agreed that regulators can use at least three different types of gearing ratios; long-term notional gearing ratio; short-term notional gearing ratio or actual gearing ratio. There are both advantages and disadvantages of using a notional or the actual gearing level. In theory, it may be preferable to use a long-term notional gearing ratio, as this ensures internal consistency in the building-block model.

For the first regulatory period, the RIC used a notional gearing ratio of 70% in the building-block model. This implies that the efficient capital structure for T&TEC consisted of 70% debt and 30% equity. This gearing ratio feeds into the building-block model and the financeability assessment, as the cost of capital used in calculating the allowances for a return on capital is based on a constant 70% gearing level and the annual interest payments.

As previously indicated, the RIC's obligation is to ensure that an efficient service provider is capable of financing its activities. In the assessment of financeability, the RIC assumed a notional capital structure for the first regulatory control period, as it believed that it was not the function of the RIC to specify the actual capital structure of the service provider. To the extent the actual differs from the notional, any costs should be borne by the shareholder and not the final customer. The RIC intends to continue with the approach adopted during the first price review.

The RIC invites comments on whether it should use: the notional or actual gearing ratio within the building-block method the notional or actual gearing ratio in assessing financeability.

4.3 Cost of Debt and Capital

Like any other business T&TEC is expected to compete for capital to finance its capital projects (Capex). The amount of revenue to be collected by the service provider from its customers to cover this cost is set by applying a cost of capital to the service provider's RAB. As this is a critical and significant element of the revenue control. There is considerable debate surrounding the most appropriate approach to setting the cost of capital.

In the first Determination, the RIC discussed the different approaches to calculating the cost of capital, including whether to use the true WACC (i.e. as a Government-owned entity) or to use a private sector surrogate. The standard practice amongst many regulators is to adopt benchmark assumptions about financing arrangements, rather than to use the entity's actual position. This allows regulated businesses to benefit from innovation and more efficient financing decisions, while protecting customers against any inefficient financing decisions¹². It also improves the comparability across the utilities/sectors. Similarly, the practice is to adopt a benchmark for the cost of debt rather than the entity's actual costs. The benchmark cost of debt, it is argued, should reflect the latest market evidence available on the borrowing costs of an efficiently financed business. However, this raises the question of embedded debt cost which may exceed prevailing market rates. Maintaining high cost debt that is actually higher than the prevailing market rates would result in customers paying prices over time that are inefficiently high. This would be inconsistent with the RIC Act which requires that prices reflect efficient costs. It may also reduce the incentives for an entity to efficiently manage its debt portfolio. The RIC may require T&TEC to provide proof of having tested the market periodically, and to do evaluations, so that the RIC, or any other monitoring body, is satisfied that debt is employed at efficient rates.

¹² Where interest coverage is low as reflected in the relevant metrics, this can impact on investor confidence and result in credit downgrades and result in increases in the required rates of return.

In the first price review, T&TEC was not required to earn a return to compensate its investor for undertaking risk by investing in the utility. The cost of capital was in effect limited to the cost of debt, which in turn was estimated to be 8% using a forward looking approach. As a result of not providing a return on equity, it could be safely assumed that 100% debt financing was in effect. If however, the RIC were to have utilized the WACC approach to find the cost of capital coupled with using the notional gearing structure of 70% debt and 30% equity (with a zero return for equity finance), the return on debt would be 11.44%.

The RIC considers that a combination of a forward-looking cost of capital, and an allowance for embedded fixed rate debt; provide a more reasonable approach than the traditional WACC approach.

The RIC seeks the view of the public on the approach to be adopted for the cost of debt, the approach to rebalance the excessive debt balance, whether embedded cost should be considered and whether a standard gearing structure should be adopted.

4.4 Anticipatory Investment

The issue of anticipatory investment is of concern to the RIC in the context of a regulated asset base, as it can impact on T&TEC's financeability. For example, the Government has set a target of 10% electricity generation from renewable energy (RE) sources by 2021¹³. In this regard, a significant amount of investment in renewable generation may be required based on whether the transmission infrastructure in the vicinity of the proposed utility-scale RE plant is equipped for the transmission of such energy. Consequently, investment in the transmission and distribution (T&D) networks will be required to facilitate achievement of renewable generation. Given the lead times involved and not to create any obstacle to generation investment, the funding arrangements for investment in T&D, in some instances, may have to precede the completion of renewable

¹³ As at January 2021, a consortium of Lightsource bp, bp and Shell are working with the Government of Trinidad and Tobago to build two (2) grid-tied, commercial-scale, solar power plants, one at Brechin Castle (92MW capacity) and one at Orange Grove (20MW capacity).
https://www.lightsourcebp.com/tt_en/projects/orange-grove-solar-farm/
https://www.lightsourcebp.com/tt_en/projects/brechin-castle-solar-farm/

generation. Therefore, the key issue is how investments made on an anticipatory basis should be regulated, as there is clearly a risk that the anticipatory investment may not be fully utilized or may not be of the same specification had there been perfect knowledge at the time of investment.

Essentially, three sets of issues/concerns arise:

- Stranding of assets – that is, if the investment proves to have been of greater capacity than required, should the full cost of the investment be recovered and/or eligible to earn a return?
- Speed of recovery – that is, how quickly the cost of the investment should be recovered from consumers through charges vis-à-vis depreciation, as it is likely that transmission assets will have longer physical lives than renewable generation assets.
- Return on capital – that is, should the anticipatory investment earn the same return as other assets or should there be some recognition of the uncertainty of the investment and therefore a separate return be set for anticipatory investment?

The RIC invites comments on the stranding of assets, the speed of recovery and the return on capital for anticipatory investment.

5. ADDRESSING FINANCEABILITY IN THE SECOND PRICE REVIEW

Broadly, the RIC assesses the financeability of a service provider by undertaking the following steps:

- i. Forecasting service provider's cash flows over the determination period (based on forecast revenue using the building-block method);
- ii. Projecting financial statements from the forecast cash flows; and
- iii. Computing financial ratios from the financial statements.

Most regulators use similar financial ratios, which focus on service provider's ability to pay interest and its level of gearing. As indicated, some regulators use the actual gearing ratio in the financial ratio analysis, while others use the notional gearing ratio. Based on the notional gearing ratio, the RIC will need to calculate five financial ratios as part of the financeability test and measure those ratios against the indicated target:

Ratio	Formula	Target
• Funds Flow Interest Cover (times)	$(\text{FFO} + \text{Net Interest}) / \text{Net Interest}$	Between 2 to 3
• Debt Payback Period (years)	$\text{Net Debt} / \text{FFO}$	Between 5 to 7
• Funds Flow/Net Debt (times)	$\text{FFO} / \text{Net Debt}$	Between 0.15 to 0.2
• Internal Financing Ratio (%)	$(\text{FFO} - \text{Dividends}) / \text{Net Capex}$	Minimum 40
• Debt as a proportion of the RAB (%)	$\text{Net Debt} / \text{RAB}$	Below 65

Some regulators use only a small number of financial ratios to assess the financeability concerns.

These are:

Ratio	Range
• $\text{FFO} / \text{Interest}$	Not less than 3 times
• FFO / RAB	About 9%
• Debt / RAB	Not higher than 65%

The RIC invites comments on the type and number of ratios to be used and/or any other additional factors that should be considered apart from financial ratios.

5.1 Options for Restoring Financeability

For the first regulatory control period, the RIC did not make any explicit adjustments to its pricing models to ensure that T&TEC's financial ratios achieved best practice targets. In fact, the RIC indicated that the trend of financial ratios, considered as a package, were more important than the absolute figures for any particular ratio in any particular year. In general, the regulators have adopted two broad approaches whenever financeability tests indicate potential short to medium-term financial viability concerns. One approach taken by regulators is that it is better for the owners/shareholders of the asset to address and manage such potential concerns. This can be done, among other things, by:

- Not allowing for portions of the forecast Capex;
- Increasing shareholders' funding through larger equity injections (Ofgem in 2007 included an allowance for equity injection in its determination, as well as an explicit equity issuance cost);
- Refinancing and/or better managing debt;
- Making efficiency savings or productivity increases; and
- Reducing dividend payments, if applicable.

The second approach adopted is to explicitly adjust the building-block model inputs to improve/address the service provider's financeability concerns. Obviously, this will have impact on the proposed tariffs. In principle, the RIC believes that the responsibility for managing short to medium-term financeability issues should generally rest with the service provider/shareholder, who is best placed to manage the risk rather than customers. Additionally, the RIC does not believe that it should mandate specific funding strategies to the service provider to address short to medium term financeability issues.

There is however, precedent for regulatory intervention to adjust building-block inputs (and thus tariffs) to address financeability concerns, especially in privatized utilities. As indicated above, the root cause of financeability problems lies in the way in which lenders are compensated for the effects of inflation. Therefore, the two main options for restoring financeability include:

- **Accelerated depreciation** – This boosts service provider’s cashflows in the short-term.
- **Using the Nominal Cost of Capital** – This will compensate service providers upfront for the effects of inflation in exactly the same way that lenders are compensated by service providers.

Other instruments that have been used include:

- **Upward Adjustment of the Cost of Capital** – Even a small increase in the allowed cost of capital/WACC can lead to a significant improvement in the financial viability of the service provider.
- **Dual/Split Cost of Capital** – That is, applying one cost of capital on existing assets and a different cost of capital for new assets. One option is to apply a higher cost of capital on new investment or applying the cost of capital/WACC to all new capital and applying the historical debt cost to historic debt.
- **Explicit Allowance/ Upliftment of Revenue** – Here an explicit allowance is made to address financeability concerns.

The instruments listed above can be evaluated in terms of whether they are NPV-positive adjustments or NPV-neutral adjustments. Under the NPV-positive approach consumers pay more for the service than they would otherwise have done. An NPV-neutral adjustment is superior to an NPV-positive adjustment in terms of economic efficiency, but consumers pay more in the short-term but face lower prices in the future. Hence, this approach also raises intergenerational equity issues.

In general, the research shows that regulators are reluctant to make any adjustments to the building-block model due to their impacts on pricing efficiency and intergenerational equity, etc. Additionally, the regulators believe that the service provider is best placed to address any short to medium-term financeability concerns

The RIC invites comments on whether adjustments to the building-block model be made to address financeability concerns or whether the responsibility should rest with the service provider/shareholder.

6. CONCLUSION

In making its pricing decisions, the RIC must have regard to a number of factors including efficiency and economy, the financial viability of the service provider, the ability of consumers to pay rates and intergenerational equity. Therefore, the financeability issues cannot be considered in isolation of other requirements of the Act. At least, the RIC must identify the circumstances when financial viability concerns outweigh other requirements of the RIC Act.

The building-block approach ensures financial viability of the service provider over the long-term and any financeability issues in the short to medium term must be addressed by the service provider/shareholder. Only in cases where the financeability concerns are serious and/or longer lasting that the RIC may consider adjustments to the building-block model as a last resort. The RIC still maintains that financeability checks have a role to play in ensuring that the overall return is set at an appropriate level and that the trend of financial ratios, considered as a package, is more important than the absolute figures for any particular indicator in any particular year.

The RIC invites comments on the issues discussed in this document.