



REGULATED INDUSTRIES COMMISSION

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ENGAGING VILLAGE COUNCILS Pg5

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Protecting YOUR Interests

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INCENTIVE MECHANISMS FOR MANAGING SYSTEM LOSSES

CHEAT SHEET

This paper is a concise version of a detailed paper available on the RIC's Website.

As part of the Determination, the RIC instituted a measurement and incentive mechanism for managing system losses in order to encourage T&TEC to efficiently manage the level of losses on its Transmission and Distribution network.

Ultimately, consumers pay for energy losses throughout the network via their tariffs and although some of the losses are unavoidable, these losses can be reduced (but never completely eliminated) by utilizing suitable techniques and equipment. Other elements of the losses are, however, avoidable with the accurate measurement of electricity consumption and good management of the network. Losses are generally divided into technical and non-technical losses.

Technical losses arise due to physical reasons and are dependent on the energy flowing through the network, the materials used to construct transmission lines and transformers and the way the network is configured and operated. Non-technical losses, at times called commercial losses, arise when energy is delivered to customers but no revenue is collected by the utility for the delivered energy. These losses are usually as a result of measurement errors, recording errors, and theft. **Table 1** below explains in detail how some of the contributing factors affect the total system losses.

Table 1. Contributing Factors affecting Total System Losses

CONTRIBUTING FACTOR	UNDERLYING CAUSE
TECHNICAL LOSSES	
Resistive and Impedance Losses	The materials typically used in the construction of electrical conductors such as copper and aluminum have values of resistance, inductance and capacitance. As current flows through the conductor there is unavoidable heating and loss of energy due to resistance. Likewise, reactive power is also consumed and lost by the inductive and capacitive components of the materials.
Power factor	The ratio of real power (transmitted to the load) to apparent power is the power factor. As reactive current increases, the reactive power increases and the power factor decreases. For systems with low power factors, losses are higher than for systems with high power factors.
Losses at various stages in the distribution process	The degree of dispersion of customers and the proportion of different types of customers across the network can uniquely affect the losses. Transmitting electricity to customers located further away from generating sources and at lower voltage levels increases the system losses.
Transformers	Resistance and impedance losses are characteristic of transformers. However, improved designs and materials can reduce these losses.
Impact of load profile differences	The load profile of electricity usage is important to the efficiency and reliability of power transmission. The factory specification of power transformers for the optimization of load losses versus no-load losses is dependent directly on the characteristics of the load profile that the transformer is expected to be subjected to during normal operations. Therefore, differences from the optimal load profile would result in greater losses.
Meters	Meters consume small amounts of power whether or not there is any consumption to record.
Metering Accuracy	Older analog/mechanical/manual metering systems typically develop a greater magnitude of errors than the newer digital/automated systems in use today. Typically these errors usually result in readings that are lower measurements of the energy actually consumed by the customer.
Lack of Embedded generation	Embedded generators are credited with supplying electricity closer to the locations of actual consumption. Their location results in lower transmission losses than the losses incurred in transporting electricity from traditional generators, which are usually located far away from the majority of end users.

Table 1. Contributing Factors affecting Total System Losses (Cont'd)

CONTRIBUTING FACTOR	UNDERLYING CAUSE
NON-TECHNICAL (COMMERCIAL) LOSSES	
Meter reading/recording errors	Meters were traditionally read by personnel and the readings then passed to a billing department. Errors could occur either in the meter reading exercise or in the transcription of readings.
Unmetered supplies	Traditionally, utilities provided their facilities with unmetered supplies, thereby, not properly accounting for the energy used at these facilities. However, in recent times utilities are being required by regulators to measure and bill their energy consumption.
Theft	Meters are sometimes tampered with by customers to report incorrectly or illegal unmetered connections are made to utility lines.

RIC's Proposals for the Second Regulatory Period 2011-2016

The RIC posits that the level of losses on T&TEC's transmission and distribution system is translating into higher prices for all customers. This is due to the fact that the total amount of electrical energy purchased by T&TEC, and which is accounted for in the tariffs charged to its customers, is the sum of the energy that is lost in transmission and the energy which is actually consumed by its customers. Hence, the RIC is proposing the continuation of the application of an incentive mechanism for managing the total system losses for the second control period as a measure to encourage T&TEC to minimize those losses. Upon review of the original formula for calculating the total system losses, the RIC is of the opinion that less emphasis can be placed on non technical (commercial) losses due to the fact that T&TEC has substantially reduced meter reading/recording errors on the network with the implementation of a full scale Advanced Metering Infrastructure.

Additionally, specific difficulties were also encountered by T&TEC in tabulating the revenue derived from collections. The RIC is of the opinion that the establishment of an annual reduction target instead of a target to be achieved over the full regulatory period will foster a more manageable environment and encourage T&TEC to achieve the set target. Non achievement of the annual reduction target will incur a penalty, the value of which will be predetermined and applied as necessary. Consequently, the proposed incentive mechanism for the second regulatory control period shall consist of the revised formula for the calculation of system losses and the initial conditions listed below, whereby the RIC will:

- **Set Total System Losses at $1 - \left\{ \frac{\text{Energy Units Billed}}{\text{Energy Units Purchased}} \right\}$**
- *Set the initial level of total system losses as the average value computed over the final year of the first control period 2006-2011 and set the target for reduction in loss levels for the second regulatory control period at 0.5% of the initial and successive values, e.g. For an initial value for total system losses of 10%, the first year's target would be 9.5%, the second year's target would be 9%, etc;*
- *Allow T&TEC to keep 90% of the gains if actual total system losses fall below the target set for that year, the sharing of the gains to occur at the end of the regulatory control period;*
- *Require T&TEC to include in the capital expenditure programme, projects which entail:*
 - *The installation of appropriate metering/monitoring equipment at strategic locations of its network; and*
 - *Network modification to reduce the level of total system losses which include but are not limited to shortening the lengths of long distribution lines and the installation of capacitors on feeders. The execution of these projects is to be given high priority during the second regulatory control period; and*
- *Take into account the value of loss reduction equipment into the asset base when it is rolled forward to encourage investment in loss reduction equipment. The full cost incurred would be incorporated into the asset base if the annual target for actual total system losses is achieved and the cost will be prorated for partial achievement of the target. However, if the total system losses increase above the initial and successive values calculated by the RIC, T&TEC will be penalized by not having the value of installed loss reduction equipment included into the asset base and a directive will be issued to compulsorily establish/ institute loss reduction measures at no cost to customers in the following control period.*

The RIC remains committed to encouraging T&TEC, through the continued implementation of an incentive mechanism, to actively manage the total system losses of its network. The proposed incentives seek to reward the achievement of set targets and penalize the utility for non-achievement. The RIC is of the opinion that, within realistic limits, loss reduction can be a cheaper alternative than adding new network capacity.

The RIC invites your comments on this consultative paper.

RIC SECURES OVER \$1.5 MILLION

in Rebates for Customers

The **Regulated Industries Commission (RIC)** has successfully secured **\$1,570,465.00** in rebates for utility customers during the period **January 2011 to December 2011**. These rebates were credited to the accounts of the **Water and Sewerage Authority (WASA)** and **Trinidad and Tobago Electricity Commission (T&TEC)** customers after investigations into individual complaints.

During this same period, *the RIC resolved 92% (2,094) of the 2,282 complaints received against WASA and T&TEC from members of the public.* These complaints would have involved situations where bills were incorrectly calculated resulting from billing classification errors, inappropriate retroactive billing adjustments and claims for damage to appliance/equipment/property etc.

Consumers have a right to receive a high quality of service from the service providers and to complain if this is not the case. If consumers have complaints, they must first make contact with the Service Provider and give them the opportunity to resolve the problem. However, if the consumer fails to obtain redress or is dissatisfied with the decision of the Service Provider, the consumer can then file a complaint with the RIC.

REACHING OUT TO COMMUNITIES

- ONE BY ONE

On Wednesday 25th April, 2012, the Customer Service Department of the Regulated Industries Commission (RIC) hosted one of its many regular Outreach Programmes at the **Penal/Debe Regional Corporation** from 10:00am to 2:00pm. The session was publicized extensively through the use of speaker cars in the community to ensure that as many residents as possible could take advantage of these services which were literally at their doorstep.

During the time spent at the Corporation, the Customer Service Officers received a total of 47 complaints against WASA and T&TEC from members of the community. These complaints were varied and involved situations where the bills were incorrectly calculated resulting from billing classification errors, lack of pipe-borne supply, leaks, low water pressure, installation of street lights and defective street lights to name a few.

This outreach session provided an opportunity for the residents in the community to raise any issues or concerns they had, as it relates to unresolved WASA/T&TEC complaints, to obtain some clarity on these issues and to have their questions and concerns answered.



800-4RIC (4742)

Coming to a Regional Corporation NEAR YOU

CONSUMER OUTREACH PROGRAMME

Schedule of Customer Outreach Programmes for the Customer Services Department for 2012

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Arima Borough Corporation 6th July 2012	Mayaro /Rio Claro Regional Corporation	Couva/ Tabaquite/ Talparo Regional Corporation	Sangre Grande Regional Corporation	Siparia Regional Corporation	Point Fortin Borough Corporation

DATES: Visit our website or call free on **800-4RIC (4742)** for confirmed dates
Time: 10:00am - 12:00pm

Tobago Outreach

The RIC's Customer Service Department visits Tobago **every 3rd Thursday of every month** from **10:00 am - 2:00pm** to take the complaints of all WASA & T&TEC Customers and to assist customers in obtaining redress from the Service Providers. The Customer Service Officers are stationed at the **Office of the Ombudsman at Caribana Building, Bacolet Street, Scarborough.**



IF YOU ARE INTERESTED IN ACCESSING THESE SERVICES:

- Make copies of bills, documents etc.
- Take meter readings, particularly if your complaint concerns your billing or supply, make a note of the date the readings were taken;
- Make notes of who you have spoken, or written to, and when, so that you can refer to them; and
- Keep copies of correspondence sent to you by your Service Provider so that you can refer to them.

REMEMBER, THE RIC IS HERE TO PROTECT YOUR INTERESTS!



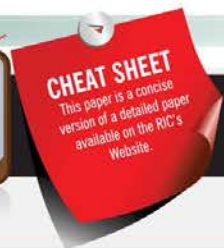
ENGAGING VILLAGE COUNCILS

Consumer-interest groups, Community-Based organisations (CBOs) and Faith-Based Organisations (FBOs) serve as important mechanisms through which citizens and consumers make their ideas, needs and views known. As part of their role as consumer watchdogs, local consumer-interest groups, CBOs and FBOs advocate on behalf of a wide range of social issues. They therefore can serve as valuable resources in getting stakeholders more actively involved in the regulatory decision-making process. Recognising the significance of their role, the RIC has been making significant strides in involving these groups in its regulatory process.

At an information session held at the Ministry of Community Development with the President and 9 other branch directors of the Trinidad & Tobago Association of Village Councils on Wednesday 14th March 2012, the RIC's approach to stakeholder involvement was the focus. To effectively engage consumers in the regulatory process, the RIC must understand the needs of all stakeholders and ensure that its approaches to customer engagement are appropriate for different types of end-users. Directly involving the Village Councils is an appropriate way that this can be achieved. Village council representatives from as far as Mayaro benefited and were eager to share their perspectives on the methods that would work best in their communities.

800-4RIC (4742)

Regulating Quality of Service



Objectives for Establishing Service Performance Schemes

Standards of service are an important feature in any industry. However, service providers operating in sectors with natural monopoly characteristics, such as electricity transmission and distribution networks, are subject to little or no competition, and have fewer incentives to provide good service as customers generally cannot select an alternative provider. The purpose of natural monopoly regulation is, in fact, to prevent the natural monopolies from exercising their market power to set their prices above costs, restrict supply below efficient levels or compromise the quality of the supply that customers receive. Pursuant to its mandate under its Act, the RIC has adopted incentive regulation (also known as RPI-X regulation, after the formula used to define the price-cap) for controlling the activities of service providers under its purview. The aim of price cap regulation is to provide an incentive for efficient operation of the network. The regulated entity can increase its profits by cutting costs, without fear that the regulator will immediately take away the additional profits by reducing allowed revenues. A price cap that rewards the service provider only for cost reductions while ignoring the quality of service provided, will almost certainly cause the quality of service to fall below the level that customers want and pay for. In response to this potential disincentive to maintain service standards, regulators have generally used three broad incentive mechanisms for regulating quality of service. This consultative paper sets out the issues relevant to and the potential benefits of the introduction of a Service Incentive Scheme in detail.

TYPES OF SERVICE INCENTIVE MECHANISMS

There are at least three (3) broad incentive mechanisms for regulating quality of service, namely the Public Reporting Scheme (also known as Performance Monitoring and Reporting), the Guaranteed Standards Scheme (GSS) and the Service Incentive Scheme, which may include an S-factor scheme. A summary of the three schemes is presented in **Table 1** below.

	SCHEME	OPERATION	OBJECTIVE
TABLE 1	Public Reporting Scheme (Average/minimum service standards established by the Regulator)	Service provider to comply with standards on a 'best endeavour' basis. Performance reporting to Regulator.	Used as a basis for measurement of overall average performance.
	Guaranteed Standard Scheme	Failure to meet guaranteed service levels involves payments to customers.	Encourage improved service for worst-served customers.
	Service Incentive Scheme (S-factor)	Performance measures assessed with reference to base-line and performance bands.	Encourage continuous improvement in the performance of services to all customers.

Public Reporting Scheme

Public reporting aids in the transparency of the service provider's operations, by facilitating the regular publication of information on its performance. It also improves accountability as customers are informed about the service provider's performance even where indicators are not subject to financial rewards and/or penalties. The information may be reported using internal or external benchmarks, and gives the regulator an opportunity to "name and shame" the service provider for poor performance. The RIC has encountered some problems with reporting (e.g. delays in reporting, quality of information, etc), and plans to strengthen its Public Reporting Scheme by:

- Rationalizing and including priority or "most important" indicators;
- Designing the format for reporting;
- Requiring the service provider to prepare the report in the required format and making it public annually, including publishing it on its website; and
- Employing an Independent Auditor to verify the process of the service provider's information collection and quality of information.

Guaranteed Standards Scheme

Under this approach the regulator sets a minimum level of service that a customer is entitled to receive by establishing a threshold level and penalizing the service provider in the event of failure to meet this level. The scheme provides both an incentive for service providers to improve performance and guarantees payments to worst-served customers for poor service. The cost of this scheme is actually borne by the customer base. The RIC implemented a Guaranteed Standards Scheme (GSS) since 2004. Except for one standard the scheme has been effective. The RIC is committed to regularly reviewing and modifying these standards to improve the quality of service. Revised standards were introduced in 2010 with changes in the quantum of the guaranteed payment and the introduction of automatic payment for some standards. It is expected that these new measures will allow for better results from this incentive scheme.

Service Incentive Scheme

International experience has shown that while the GSS is effective in ensuring that a minimum level of service is attained, it provides little incentive for the service provider to improve beyond that threshold level. As such, other Service Incentive Mechanisms may be introduced into the quality of service framework. These mechanisms make adjustments to revenue via either a **direct revenue adjustment** or by adopting an '**S**' factor. A direct revenue adjustment rewards or penalizes the service provider by directly adjusting allowed revenue in response to differences between the expected or target level of service and the actual level of service.

The S-factor, on the other hand, is a quality component introduced into the price cap formula (RPI-X) that provides a direct financial incentive to service providers. It reflects the difference between the actual quality of service delivered and a predetermined benchmark or performance indicator. The modified formula becomes $RPI-X+S^1$. When the S-factor is positive, prices (and hence revenues) increase, and when the S-factor is negative prices decrease. A similar form of control applies to revenue cap regulation where the S-factor varies the maximum allowed revenue pre-determined for that year. In general, the purpose of these incentive mechanisms, whether a direct revenue adjustment or an S-factor, is to motivate or incentivize the service provider to improve its level of service by increasing the link between service levels and revenues. **The RIC would like to receive submissions on its proposals. The submissions it receives in relation to this document will play an important role in its final decision.**

For the past several weeks the RIC has been featured on i95.5 fm every Wednesday at 1:00pm as part of its radio programme **"UP for Discussion"**. On the programme, representatives of the RIC have been holding informative discussions on topics of interest to consumers such as explaining and simplifying utilities regulation, the RIC's approach to rate setting, the complaint process, the Codes of Practice and the Quality of Service Standards that have been developed for T&TEC.

The response has been tremendous particularly since listeners have the opportunity to call in with their questions and concerns and have these answered right away. As a means of expanding the radio discussions, the **"Up for Discussion"** programme will also be featured on **Mondays at 9:00am on Sangeet 106.1 fm commencing 28th May 2012 and runs for several weeks, until 25th June 2012.**



UTILITY SERVICE PROVIDERS - AT YOUR SERVICE

Codes of Practice for T&TEC as established by the RIC:

PROCEDURES FOR DEALING WITH CUSTOMERS IN DEFAULT

Procedure for Determining Customers in Payment Difficulties

What T&TEC must do:

T&TEC must have procedures in place for distinguishing customers in hardship from those who are delinquent. It is a customer's responsibility to contact T&TEC if the customer anticipates that payment of a bill by the "due" date may not be possible. The policy and procedures of T&TEC must:

- Provide internal assessment processes designed to make an early identification of a customer's hardship and eligibility using objective criteria such as customer's previous payment history, eligibility for the Low Income Assistance Programme, etc; and
- Provide for staff training and internal responsibilities for the development, management, communication and monitoring of the policy.

Procedure for Contacting Customers in Default

What T&TEC must do:

T&TEC must implement a customer friendly procedure for contacting customers in default. In this regard, T&TEC must:

- Be proactive in attempting to contact indebted customers either by letter, telephone or personal visit. The manner of such contacts should not be oppressive or threatening;
- Have trained and experienced staff to deal sympathetically with customers to negotiate payment arrangements that reflect the customer's circumstances; and
- Send at least two notices to the customer requesting that he/she contact T&TEC within 7 days to negotiate payment arrangements.

Payment Difficulties

What T&TEC must do:

Where the customer has been identified to be experiencing payment difficulties, T&TEC must offer customers on a case-by-case basis, alternative payment arrangements consistent with a customer's capacity to pay, including:

- Offering a range of payment options to enable them to maintain supply while managing their debts;
- Information on independent financial and other relevant counseling services;

- Advice on any concessions, low-income assistance programmes that may be available to the customer to assist with financial hardship;
- Offering to extend the "due" date for the payment of bills for some or all of an amount owed;
- Offering to waive or suspend interest payments on outstanding amounts; and
- Providing energy efficiency information, as a strategy to reduce high bills.

Deferred Payment Plans

What T&TEC must do:

T&TEC must offer residential customers at least the following instalment payment options:

- An interest free instalment plan under which the residential customer is given more time to pay a bill or to pay arrears (T&TEC need not offer an instalment plan if the customer has, in the last 12 months, had 2 plans cancelled for non-payment);
- An arrangement under which the customer may make payments in advance towards future bills; and
- Monitor the residential customer's compliance with the plan.

An installment plan must:

- Specify the period of the plan;
- Specify the number of instalments and amount to be paid per instalment, duly taking into account customer's consumption needs and capacity to pay;
- Specify the maximum downpayment (downpayment being no greater than 30%); and
- State how the amount of the instalments is calculated.

WHAT YOU CAN EXPECT:

The RIC will always protect consumers' interest by implementing and enforcing customer-related standards, policies, procedures (Codes of Practice) for the utility service providers to follow so that quality service is always delivered to you. **Ensuring you get what you pay for!**

Sweet 100fm Office Party Winners

An office party in April? Who would have thought? After qualifying in the top three, to win the Sweet 100.1 fm Office Party Promotion, staff members of the RIC decided that we were going to win this! So said, so done!!! With a minimum of three days to practice, the mood leading up to the Sweet 100 fm Office Party finals was one of excitement and in the end the RIC walked away with the first prize!

The RIC's Training Room was transformed into a festive lounge on Friday 27th April, 2012. Staff members, family and friends gathered for a fun-filled evening. From a game of 'guess the name of that song' hosted by Marc Anthony, to a cheerful game of musical chairs, the afternoon ended perfectly with our very own 'choir' singing our winning version of the Sweet 100.1fm Jingle. With great company, appetizing food and the wonderful entertainment provided by Sweet 100.1fm, we managed to pull off a spectacular and memorable After Work Lime/Office Party.



A game of musical chairs.



Martin 'Garlic Sauce' Haynes copped the first prize in the RIC's Mini Talent Show held at its office on 17th February 2012.



MINI Talent Show



Sugrim 'The Mighty Corn Curls' Mungal delivers his second place, original composition "Carnival Lime 2012".

REGULATED INDUSTRIES COMMISSION

1st & 3rd Floors, Furness House, Cor. Wrightson Road & Independence Square, Port-Of-Spain.P.O. Box 1001

• Website: www.ric.org.tt • Email: ricoffice@ric.org.tt
• Tel: 800-4RIC (4742) / 627-7820 / 627-0821 / 625-5384 / 627-0503 • Fax: 624-2027

RIC NEWS WELCOMES YOUR VIEWS & COMMENTS.
Contact: Ms. Denise Caesar - Corporate Communications Manager
E-Mail: caesard@ric.org.tt or comments@ric.org.tt