

**QUALITY OF SERVICE STANDARDS
ANNUAL PERFORMANCE REPORT
2006**

**ELECTRICITY TRANSMISSION AND
DISTRIBUTION SECTOR**

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EXECUTIVE SUMMARY

Under Section 6 of Act No. 26 of 1998, the Regulated Industries Commission (RIC) is empowered to prescribe standards of service, monitor and ensure compliance, and impose sanctions for non-compliance. In carrying out its mandate, the RIC implemented Quality of Service Standards (QSS) for the Electricity Transmission and Distribution Sector on April 7, 2004. The RIC receives information from the service provider on a monthly, quarterly and annual basis, which assists in the monitoring of the service provider's performance with respect to the established standards.

This is the third Annual Performance Report by the RIC. This report describes the levels of service provided by the Trinidad and Tobago Electricity Commission (T&TEC) against the established Quality of Service Standards, over the four quarterly periods from January to December 2006. The report assesses the performance of T&TEC in each of the Guaranteed and Overall Standards, provides reasons for poor performance, and compares the performance with that of the previous years.

Summary Performance

Performance under Guaranteed Standards

Guaranteed standards are those which set service levels that must be met in each individual case by the service provider. These standards also carry compensatory payments to the affected customers if the utility fails to provide the level of service required. At present, six (6) Guaranteed Standards exist for T&TEC.

T&TEC's performance is presented by examining its compliance rates for the Guaranteed Standards. Generally, T&TEC's performance with respect to the Guaranteed Standards Scheme improved during 2006. T&TEC has achieved full compliance with two of the six standards for the period under review. These are GES 4 (Making and Keeping Appointments) and GES 5 (Time to Credit Compensatory Payments). T&TEC achieved a compliance rate of over 99% under GES 1 (Response and Restoration Times) and GES 3 (Reconnection after Payment of Overdue amounts or Agreements). The most breaches (72.4% of the total of 15,447) of the

Guaranteed Standards occurred in GES 2 (Billing Punctuality), while GES 1 was responsible for 21.4% of the total breaches, followed by GES 6 (Connection to Supply), with 5.9% of the total. The declining performance in GES 2 was significant, with the average compliance rate for Residential customers falling from 99.3% in 2005 to 45.9% in 2006, and for Non-Residential customers, from 90.7% in 2005 to 47.7% in 2006.

Based on the number of breaches this year, T&TEC should have been required to compensate customers for 15,447 breaches, which were significantly less than the 25,145 breaches that occurred in 2005. The RIC estimates that compensatory payments of over \$463,400 would have been due to customers, had claims been made, verified and approved for payment. However, the number of claims made by customers continues to be extremely low, with only one claim being made and accepted in 2006. The RIC has made a number of recommendations for T&TEC to improve customer awareness, including to:

- Publish information on the Guaranteed and Overall Standards, at least once per quarter and at least in one daily newspaper widely circulating in Trinidad and Tobago;
- Provide information on the standards and how customers can claim compensation, at least twice per year in customers' bills.
- Ensure that claim forms are readily available at all their customer service offices/centers, and
- Adequately display the standards in all of its customer service offices/centers.

The following table presents the assessment of T&TEC's performance against the established Guaranteed Standards for 2006.

Table I - Compliance under Guaranteed Standards

Code	Service Description	Performance Measure	2006 Compliance Rates (%)
GES1	Response and restoration time after unplanned (forced) outages on the distribution system.	Time for restoration of supply to affected customers	99.9
GES2	Billing Punctuality (new customers)	Time for first bill to be mailed after service connection:	
		(a) Residential	45.9
		(b) Non-Residential	47.7
GES3	Reconnection after payment of overdue amounts or agreement on payment schedule	Time to restore supply after payment is made (All customers)	99.8
GES4	Making and keeping appointments	Where required, appointments will be made on a morning or afternoon basis	100.0
GES5	Compensatory payment	(i) Time to credit compensatory payment after non-compliance	100.0
		(ii) Time to complete investigation, determine liability and make payment after receiving a claim.	100.0
GES6	Connection to supply:		
	Under 30 metres	Service drop and meter to be installed	94.3
	30 to 100 metres	(a) Provision of estimate (subject to all documents being provided)	92.8
	30 to 100 metres	(b) Complete construction (after payment is made)	88.1
	100 to 250 metres	(a) Provision of estimate (subject to all documents being provided)	82.0
	100 to 250 metres	(b) Complete construction (after payment is made)	80.5

Performance under Overall Standards

Overall standards are those which cover areas of service where it is not appropriate or feasible to give individual guarantees, but where the expectation is that the utility will provide pre-determined minimum levels of service. These standards generally relate to the reliability of service affecting a group of customers. Nine (9) Overall Standards currently exist for T&TEC.

There was full compliance by T&TEC in four (4) out of the nine (9) Overall Standards, namely OES 1 (Line faults repaired within 48 hours), OES 3 (Frequency of meter testing), OES4 (Frequency of meter reading) and OES 7 (Number of complaints by type). For the other five Overall Standards, breaches continued to occur during 2006. T&TEC maintained its level of performance at over 95% for OES 9. And while there was improved performance in the two of the three categories of OES 6 (Response to customer queries/requests), the performance is not up to the levels that may be considered acceptable. In the following standards, OES 2, OES 5 and OES 8 performance levels dropped. The following table presents the assessment of T&TEC's performance against the established Overall Standards.

The RIC will continue to monitor the performance of T&TEC in these important aspects of its provision of service to its customers. Areas of deficiency will be highlighted in order to ensure that the service provider gives greater focus and effort in meeting the required performance. For increased effectiveness of the Guaranteed Standards Scheme, the RIC will increase its efforts at its public outreach programmes to encourage customers to claim when breaches of the Standards occur.

Table II - Compliance under Overall Standards

Code	Description	Required Performance Units	2006 Compliance Rate (%)
OES1	Line faults repaired within a specified period (for line faults that result in customers being affected)	100% within 48 hours	100.0
OES2	Billing punctuality	98% of all bills to be mailed within ten (10) working days after meter reading or estimation	90.8
OES3	Frequency of meter testing	10% of industrial customers' meters tested for accuracy annually.	100.0
OES4	Frequency of meter reading	(a) 90% of industrial meters should be read every month	100.0
		(b) 90% of residential and commercial meters read according to schedule	100.0
OES5	System revenue losses (difference between energy received and energy for which revenue is derived)	7.5 % of total energy delivered to customers	0.0
OES6	Response to customer queries/requests (written) (i) Time to respond after receipt of queries.	Within 5 working days	72.7
	(ii) Time to complete investigation and to communicate final position	Within 15 working days of inquiry	25.3
	(iii) Time to complete investigation and communicate final position if third party is involved (e.g. insurance claim.)	Within 30 working days after third party actions completed	18.7
OES7	Number of complaints to TTEC by type: (a) Billing queries	500 telephone and/or written complaints per 10,000 customers per annum	100.0
	(b) Voltage Fluctuations/Damage	300 telephone and/or written complaints per 10,000 customers per annum	100.0
	(c) Street Lights/Poles/Disconnections/Other	1000 telephone and/or written complaints per 10,000 customers per annum	100.0
OES8	Prior Notice of planned outages	At least 72 hours (3 days) advance notice of planned outages 100% of the time	60.7
OES9	Correction of Low/ High Voltage complaints	All voltage complaints to be responded to within 24 hours.	99.9
		All voltage complaints to be rectified within 15 working days.	94.6

SECTION 1 INTRODUCTION

This is the third Annual Performance Report of the Regulated Industries Commission on the Quality of Service Standards for the Electricity Transmission and Distribution Sector. Section 6 of the Act empowers the RIC to prescribe standards of service and impose sanctions for non-compliance. Standards of performance are important elements in the regulatory framework, as they serve to protect the interests of the customers of the service providers in key service areas. The Quality of Service Standards for the Electricity Transmission and Distribution Sector were implemented on April 7th, 2004.

1.1 Purpose of Document

The purpose of this report is to present an assessment of the performance of the Trinidad and Tobago Electricity Commission with respect to the established Quality of Service Standards over the four quarterly periods from January to December 2006. The information utilized in this report has been supplied by T&TEC.

1.2 Structure of Document

The remainder of this document is structured as follows:

- Section 2 reviews the performance of T&TEC in each of the Guaranteed and Overall Standards;
- Section 3 presents a summary and conclusions;
- Appendix 1 presents tables of the Guaranteed and Overall Standards with a description of the required performance units, and the compensatory payment levels for each standard;
- Appendix 2 presents a table and charts showing the compliance rates of the T&TEC with respect to the Guaranteed and Overall Standards for Electricity Transmission and Distribution for the period April 2004 to December 2006.

SECTION 2 PERFORMANCE ASSESSMENT FOR THE PERIOD JANUARY TO DECEMBER 2006

2.1 Guaranteed Standards

Guaranteed standards are those which set service levels that must be met in each individual case by the service provider. These standards also carry compensatory payments to the affected customers if the utility fails to provide the level of service required. They generally relate to the relationship between the utility and the individual customer. At present there are six (6) Guaranteed Standards established for T&TEC.

GES 1: Response and Restoration Times of Supply.

A measure of a utility's efficiency is its response time to trouble calls and its ability to quickly restore supply. This standard seeks to ensure that T&TEC responds promptly to any unplanned outage and restores supply in the shortest time possible. In order to analyse T&TEC's performance under this standard, the frequency of unplanned outages must first be examined. There was a total of 9982 unplanned outages for 2006. **Table 1** shows that the number of unplanned outages varied throughout the year with a low of 649 in February, and a peak of 1024 in October. Lows and highs in 2005 were also observed in February and October, there being 522 and 995 outages respectively. More outages occurred in the second half of the year

Table 1 - No. of unplanned outages for the period January to December 2006

Area	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total 2006	Total 2005	Total 2004*
North	144	131	141	190	180	170	192	290	233	205	224	189	2289	2561	951
South	169	162	130	150	244	144	165	210	172	321	321	239	2427	1943	747
Tobago	72	41	56	110	55	93	61	68	76	89	71	81	873	940	789
East	138	146	187	223	162	218	198	211	297	208	220	123	2331	1204	892
Central	177	169	178	146	176	129	178	179	159	201	181	189	2062	1852	616
Total 2006	700	649	692	819	817	754	794	958	937	1024	1017	821	9982	8505	3995
Total 2005	647	522	524	582	636	607	791	880	886	995	705	725			

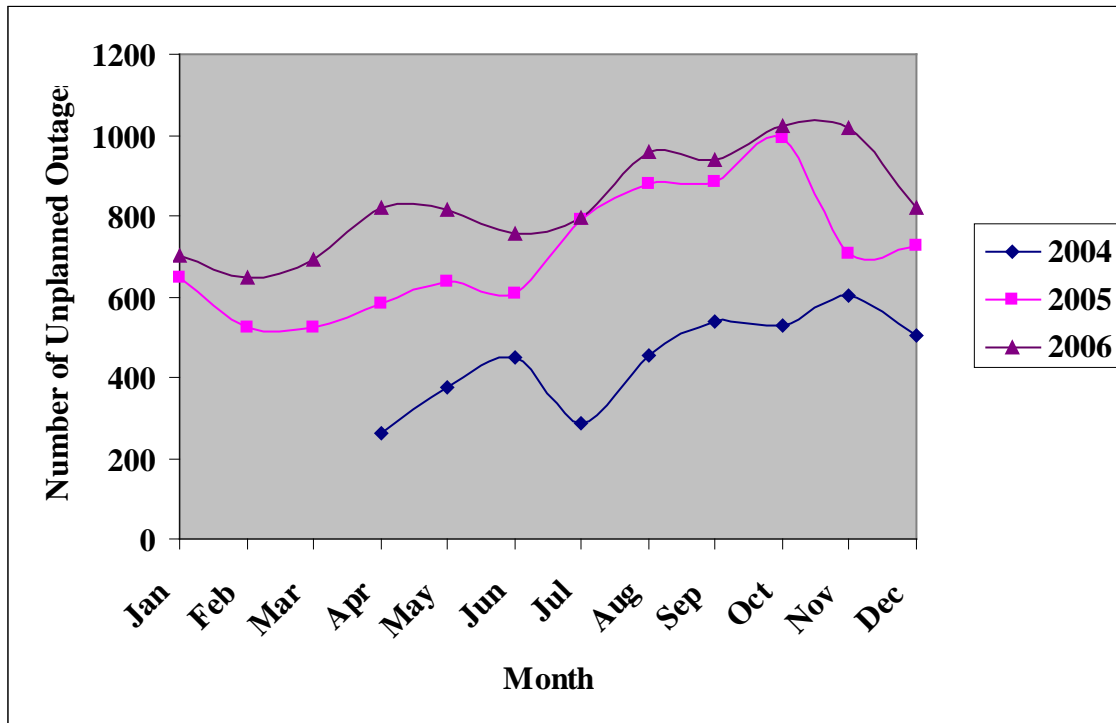
**Note: Data for 2004 represents the 9 months from April to December*

in both instances, and this may be attributed to adverse weather conditions.

It can also be observed in **Figure 1** that generally, the numbers of unplanned outages occurring monthly from 2004 to 2006 have been increasing, thus raising questions about the maintenance of the distribution network. Reasons given by T&TEC for the unplanned outages included:

- Blown transformer fuse;
- Extreme bad weather;
- Slack connections on Low Voltage mains; and
- Fallen trees.

Figure 1 – Unplanned Outages for 2004 to 2006



**Note: Data for 2004 represents the 9 months from April to December*

GES 1 requires that supply be restored to affected customers within 12 hours after an unplanned outage on the distribution system.¹ Failure to do so constitutes a breach of this standard. Additionally, a breach is also registered for each further 12 hour period, up to a maximum of 36 hours, that the service is not restored. An unplanned outage experienced by a customer is

¹ The time that the outage occurred is taken as the time the report is received by T&TEC.

referred to as an outage incident. It should be noted that some customers might have experienced several outage incidents within the period, each of which, if not restored within a 12-hour period, would count as a breach. **Table 2** below shows the number of customer outage incidents and the number of breaches.

Table 2 - Response and Restoration Times of Supply, 2006

Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL (2006)
Total no. of customer outage incidents	242,116	150,096	141,772	180,472	192,525	274,734	261,764	308,863	489,589	324,755	332,795	235,763	3,135,244
Total no. of customer outage incidents of duration greater than 12 hours (breach)	160	182	15	194	6	473	29	426	464	26	687	639	3,301
Percentage breach (%)	0.07	0.12	0.01	0.11	0.00	0.17	0.01	0.14	0.09	0.01	0.21	0.27	0.11
Compliance Rate (%)	99.93	99.88	99.99	99.89	100	94.83	99.99	99.86	99.91	99.99	98.79	99.83	99.89

The total number of breaches of this standard was 3,301, with 687 breaches being recorded in November. Although this was the highest number of breaches in 2006, it was significantly smaller than the 14,099 that occurred in 2005. In June 2006, there were outages that were reconnected after 36 hours. The resulting 94 outage incidents occurred in Blanchisseuse and were due to a blown fuse as a result of a fallen tree. Restoration was delayed because of inaccessibility. It is worth noting, that in total, the number of breaches in 2006 was significantly less than the 24,567 observed for 2005 (**Table 3**).

Some of the main reasons submitted for lengthy reconnection times included:

- Area inaccessible because of extreme bad weather and poor terrain;
- Crime “hot spots”; and
- Industrial action.

Table 3 – Response and Restoration Times of Supply, 2004 - 2006

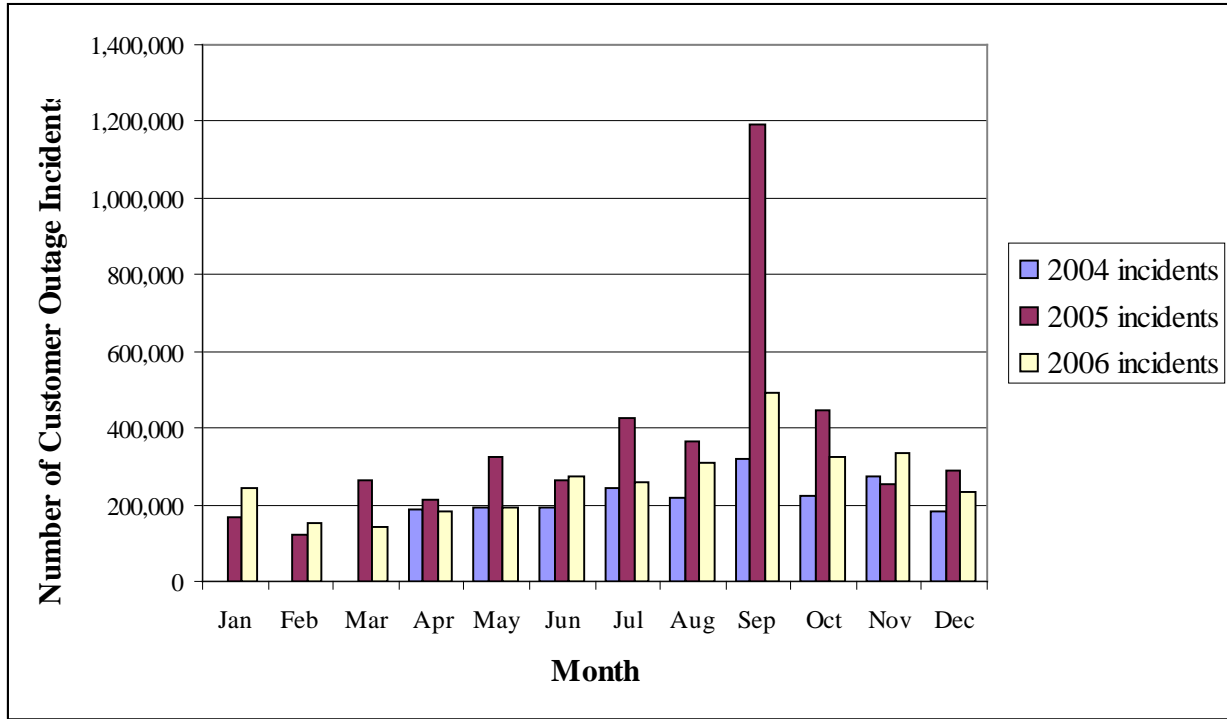
Item	TOTAL (2006)	TOTAL (2005)	TOTAL (2004)*
Total no. of customer outage incidents	3,135,244	4,264,739	2,032,035
Total no. of customer outage incidents of duration greater than 12 hours (breach)	3,301	24,567	20,575
Percentage breach (%)	0.11	0.58	1.01
Compliance Rate (%)	99.89	99.42	98.99

**Note: Data for 2004 represents the 9 months from April to December*

There was previously major concern that the total number of customer outage incidents increased from 2004 to 2005. It was therefore a positive indicator that although the number of outages increased by 17% from 8505 to 9982 over the period 2005/2006, the number of outage incidents decreased by 26% from 4,264,739 in 2005 to 3,135,244 in 2006.

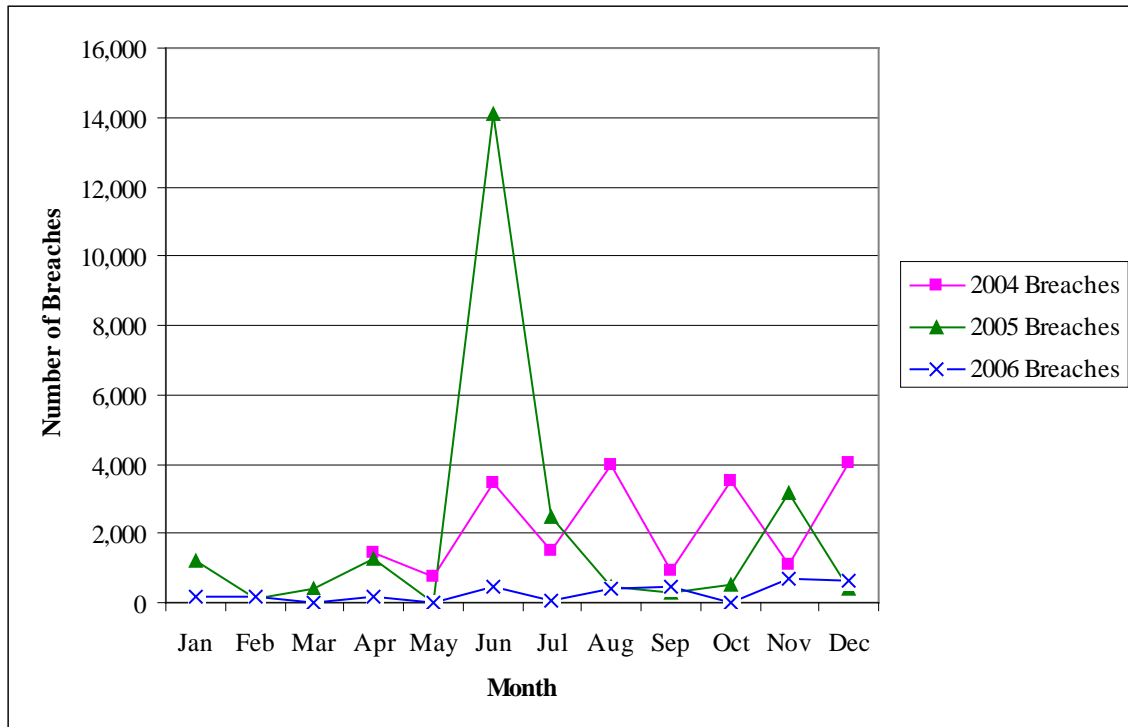
Another noteworthy statistic is that while there were over 3 million outage incidents, only 3300 breaches occurred, indicating that 99.9% of the outage incidents were restored within 12 hours. There was also a gradual improvement over the years in the compliance rate for this standard. **Figures 2** and **3** depict the number of customer outage incidents and breaches respectively for 2004 - 2006.

Figure 2 – Number of Customer Outage Incidents, 2004 – 2006



**Note: Data for 2004 represents the 9 months from April to December*

Figure 3 – Number of Breaches, 2004 – 2006



**Note: Data for 2004 represents the 9 months from April to December*

GES 2: Billing Punctuality.

This standard seeks to ensure a prompt and efficient billing process and as such requires that the first bill after a service connection be mailed within 65 days for residential customers and 35 days for non-residential customers.

Tables 4 and 5 indicate the performance and the compliance rate with this standard for residential and non-residential customers, respectively. For residential customers, the performance declined significantly, moving from an overall compliance rate of 99.3% in 2005 to 45.9% in 2006.

Table 4 - Billing Punctuality for Residential Customers, 2006

Item		1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2006	TOTAL 2005
Number of new customers requesting supply	Residential	4001	5413	5037	6092	20543	11880
No. of bills not mailed within 65 days (Residential) (breach)		1979	3386	2816	2929	11110	82
Percentage breach (%)	Residential	49.5	62.6	55.9	48.1	54.1	0.7
Compliance Rate (%)	Residential	50.5	37.4	44.1	51.9	45.9	99.3

Compliance rates for non-residential customers also dropped significantly from 90.7% in 2005 to 47.7% in 2006. (**Table 5**). This was primarily due to poor performance in the third and fourth quarters when the compliance rates were 17.9% and 28.6% respectively. Since T&TEC has not been able to explain this poor performance, the RIC will pay closer attention to this standard during the next year.

Table 5 - Billing Punctuality for Non-Residential Customers, 2006

Item		1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2006	TOTAL 2005
Number of new customers requesting supply	Non-Residential	26	56	39	28	149	97
No. of bills not mailed within 35 days (Non-Residential) (breach)		12	14	32	20	78	9
Percentage breach (%)	Non Residential	46.2	25.0	82.1	71.4	52.3	9.3
Compliance Rate (%)	Non Residential	53.8	75.0	17.9	28.6	47.7	90.7

GES 3: Reconnection after payment of overdue amounts or agreement.

As a matter of policy, T&TEC would disconnect a customer for non-payment. Once the bill has been settled or some agreement has been reached on a payment schedule, T&TEC should also demonstrate efficiency in its response to restore the service. This standard requires that supply is reconnected within 24 hours after customers pay overdue amounts or make payment arrangements with T&TEC.

As shown in **Table 6**, the compliance rate remained constantly high for this standard over the period, achieving its highest compliance in the third quarter.

Table 6 - Reconnection after Payment of Overdue Amounts or Agreement

Item	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2006	TOTAL 2005
Total Disconnections	6369	5812	5097	5896	23,174	23,973
Customers making payments/arrangements	5538	5184	4546	5420	20,688	18,047
Number not reconnected within 24 hours	27	9	2	13	51	153
Percentage breach (%)	0.5	0.2	0.04	0.2	0.2	0.8
Compliance Rate (%)	99.5	99.8	99.96	99.8	99.8	99.2

On average, about 89% of disconnected customers choose to make payments or arrangements rather than remain disconnected. However, the impact on system losses of the 11% that remain disconnected must be examined, since it is likely that some of these customers may engage in illegal usage. T&TEC has not done any assessment to quantify this impact, but they indicated that the disconnection crews revisit the disconnected customers two to three weeks after disconnection if no payment or arrangement has been made and remove the service connection mains, thereby reducing the incidents of illegal usage.

GES 4: Making and Keeping Appointments.

There are instances when it is necessary for the utility to make appointments to visit customers' premises. It is important for both the utility and the customer that the appointment is kept. Unfortunately, in the event of an unkept appointment, it is usually the customer that is more greatly inconvenienced. This standard encourages T&TEC to further improve its overall customer service by requiring that 24 hours notice of inability to keep appointments be given to customers.

Table 7 – Making and Keeping Appointments

Item	2006	2005
No. of appointments arranged with customers	128	46
No. of appointments not kept within 30 mins of appointed time	0	0
No. of appointments cancelled/postponed with 24 hrs notice	0	0
Percentage breach (%)	0.0	0.0
Compliance Rate (%)	100.0	100.0

There were 128 customer appointments made for the year by T&TEC and all were kept. In 2005, there were 46 appointments, all of which were kept. The RIC is concerned about the rather small number of appointments recorded by T&TEC, given the utility's customer base of over 375,000 and the T&TEC related complaints handled by the RIC. During 2006, 628 dissatisfied T&TEC customers came to the RIC seeking redress. Of these, 225 complaints were

about matters that might have required T&TEC to set up an appointment with the customer. The RIC intends to work with T&TEC to ensure that information is accurately recorded in the future.

GES 5: Compensatory Payments.

The Guaranteed Standards Scheme not only sets prescribed levels of service, but also sets penalties for failure to meet these levels. This standard limits the time to credit compensatory payment to a customer's account to 35 working days. It also requires that the time to complete investigation, determine liability and make payment after receiving a claim be within 35 working days.

There was only one claim made to T&TEC in the first quarter of 2006, for which a compensatory payment of \$30.00 was awarded within the stipulated time frame. Therefore there were no breaches of this standard for the period.

GES 6: Connection to Supply.

New customers are normally added to the system because of growth and expansion. Some of the new customers will be near to appropriate utility infrastructure, while others may require additional work before the connection can be made. GES 6 seeks to standardize the time taken by T&TEC between receiving requests for new connection services and completing the actual connection in the following scenarios:

(i) For the request for connection less than 30 metres from the T&TEC's network, the service drop and meter should be installed within 3 working days.

(ii) For connections between 30 and 100 metres, the provision of an estimate (subject to all documents being provided) should occur within 5 working days. Complete construction after payment is made should take place within 15 working days.

(iii) For connections between 100 to 250 metres, the provision of an estimate (subject to all documents being provided) should occur within 7 working days. Complete construction after payment is made should take place within 20 working days.

As can be observed in **Table 8**, the overall compliance rate over the period for Standard 6a (supply connections requested less than 30 metres) declined from 99.4% in 2005 to 94.3% in 2006, with quarterly compliance ranging between 83.5% and 99.7%. There was no significant increase in the number of supply connections requested and no explanation for the decline has been provided by T&TEC. The performance was particularly poor in the fourth quarter where the compliance rate dropped to 83.5%

Performance under the standard 6b (provision of estimates for supply connections between 30 to 100 metres) fluctuated during the year 2006. Requests for supply connections almost doubled, and the overall compliance rate for providing estimates improved from 74.8% in 2005 to 92.8% in 2006. The quarterly compliance ranged from 73.2% to 99.0%, which was an improvement on the performance in 2005, where it ranged from 66.0% to 88.6% during that year.

Of the 889 requests for supply connections between 30 to 100 metres received in 2006, the necessary estimates were completed on time for 825 of these jobs, and 783 jobs were completed within 15 working days (Standard 6c). While the number of jobs not completed (106) was approximately the same number not completed in 2005 (109), the percentage is smaller since there were more requests in 2006. Average quarterly compliance improved from 76.1% (2005) to 88.1% (2006).

Performance in Standard 6d (provision of estimates for supply connections from 100 to 250 metres) remained at roughly the same, 82.0% compliance, when compared with the 2005 performance of 82.7% compliance. There were more requests for supply connections, and while maintaining the level of overall compliance was commendable, there is still room for improvement in the performance.

Twenty six out of 133 jobs were not completed within 20 working days (19.5%), Standard 6e. This was an improvement over the 26.6% that was not completed in 2005. The overall compliance rate increased from 73.4% (2005) to 80.5% in 2006.

Table 8 - Connection to Supply

Guaranteed Standard Code GES 6	Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL 2006	TOTAL 2005
6a	No. of supply connections requested <30m	3018	3126	2697	3187	12028	12011
	No. not connected within 3 working days (breaches)	10	135	17	525	687	71
	Percentage breach%	0.3	4.3	0.6	16.5	5.7	0.6
	Compliance Rate %	99.7	95.7	99.4	83.5	94.3	99.4
6b	No. of supply connections requested – 30 to 100m	116	305	112	356	889	457
	No. of estimates not provided within 5 working days (breaches)	24	3	30	7	64	115
	Percentage breach%	20.7	1.0	26.8	2.0	7.2	25.2
	Compliance Rate %	79.3	99.0	73.2	98.0	92.8	74.8
6c	No. of jobs not completed within 15 working days (breaches)	19	31	36	20	106	109
	Percentage breach%	16.4	10.2	32.1	5.6	11.9	23.9
	Compliance Rate %	83.6	89.8	68.9	94.4	88.1	76.1
6d	No. of supply connections requested – 100 to 250m	37	25	35	36	133	98
	No. of estimates not provided within 7 working days (breaches)	5	2	10	7	24	17
	Percentage breach%	13.5	8.0	28.6	19.4	18.0	17.3
	Compliance Rate %	86.5	92.0	71.4	80.6	82.0	82.7
6e	No. of jobs not completed within 20 working days (breaches)	2	9	7	8	26	22
	Percentage breach%	5.4	36.0	20.0	22.2	19.5	26.6
	Compliance Rate %	94.6	64.0	80.0	77.8	80.5	73.4
Total No. of Breaches		60	180	100	567	907	334

2.2 Overall Standards

Overall standards are those which cover areas of service where it is not appropriate or feasible to give individual guarantees, but where the expectation is that the utility will provide pre-determined minimum levels of service. These standards generally relate to the reliability of service affecting a group of customers. Nine (9) Overall Standards have been established for T&TEC.

OES 1: Line Faults affecting Customers repaired within a Specified Period.

This standard requires that 100% of transmission line faults that result in customers being affected, be repaired within 48 hours.

Table 9 - Number of Transmission Line Faults in 2006

Area	1 st Quarter			2 nd Quarter			3 rd Quarter			4 th Quarter			TOTAL 2006
	33kV	66kV	132kV	33kV	66kV	132kV	33kV	66kV	132kV	33kV	66kV	132kV	
North	5	1	5	7	1	0	18	0	0	12	0	0	49
South	3	7	3	11	8	0	18	15	0	4	9	0	78
Tobago	0	3	4	0	0	0	0	0	0	0	0	0	7
East	5	14	0	10	15	0	13	10	0	12	14	0	93
Central	0	0	3	0	5	0	0	5	0	0	2	0	15
Total	13	25	15	28	29	0	49	30	0	28	25	0	242

There were no breaches in this standard for the period, since all faults were repaired within 48 hours. In total, the number of line faults for the year 2006 was 242 which is an improvement on the 268 faults reported in 2005. The most faults occurred in the East (**Table 9**), followed by the South which is not unusual given that the majority of the overhead transmission line network is located in these two areas. The total numbers of faults on 33kV, 66kV and 132kV lines are shown in **Table 10**.

Table 10 – Number of Transmission Line Faults by Voltage in 2005/6

Voltage	Number of Line Faults	
	2006	2005
33kV	118	156
66kV	109	100
132kV	15	12
TOTAL	242	268

OES 2: Billing Punctuality.

T&TEC’s customers are billed by cycles in each of its five (5) Distribution Areas. Bills are mailed to the customers in the respective cycles after readings are estimated or the meters are read according to the meter-reading schedule. This standard seeks to ensure timely billing and requires that 98% of all bills be mailed to customers within ten working days after meter reading or estimation.

Table 11 shows T&TEC’s performance with respect to billing punctuality. There was a progressive improvement in the performance under this standard since its implementation. (**Appendix II, Table A4**). In 2006, full compliance was achieved in the second and fourth quarters. It may also be seen from **Table 11** below, that in the second and fourth quarters of 2006, there were more bills mailed than meters read and estimated. This was due to schedule readings from previous quarters being done late.

Table 11 - Billing Punctuality, 2006

Performance Data	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL 2006	TOTAL 2005
Number of meters read and estimated	514,340	494,426	499,616	502,928	2,011,310	1,836,591
Number of bills mailed within 10 working days	422,676	499,020	358,385	509,387	1,789,468	1,896,548
Percentage of bills mailed within 10 working days (%)	82.2	101.9	71.7	101.3	89.0	103.3
Percentage breach (%)	16	0	27	0	9	0.0
Compliance rate (%)	84	104	73	103	91	105

OES 3: Frequency of Meter Testing.

Proper functioning meters are important for accurately registering a customer’s consumption. This is even more critical for Industrial customers whose electricity consumption is much higher than the Residential and Commercial customers. As such, meters must be checked periodically to ensure continued accuracy. This standard requires that 10% of industrial customers’ meters be tested for accuracy annually.

Table 12 shows that, in 2006, there was full compliance with this standard, as 264 out of 2624 industrial meters were tested.

Table 12 – Frequency of Meter Testing, 2006

Item	Performance Data	
	2006	2005
Number of industrial meters	2,624	2592
Number of industrial meters tested	264	259
Percentage of industrial meters tested (%)	10.1	10.0
Percentage breach (%)	0.0	0.0
Compliance rate (%)	100.0	100.0

OES 4: Frequency of Meter Reading.

The issue of estimated billing has been one of the recurring complaints received from customers, especially when customers receive an estimated bill when they were due to receive an actual billing. The goal is to eventually have all meters read when scheduled. However, in the interim, this standard requires that:

- 90% of all residential and commercial meters be read when scheduled; and
- 90% of all industrial meters be read every month.

Table 13 shows that the compliance rates for both industrial meter readings and residential and commercial meter readings were 100%.

Table 13 - Frequency of Meter Reading, 2006

Item	Performance Data 2006	Performance Data 2005
Number of scheduled readings for residential and commercial meters	1,234,893	2,592
Number of residential and commercial meters read according to schedule	1,143,033	28,740
Percentage of residential and commercial meters read according to schedule	92.6%	2,395
Percentage breach (%)	0.0	90.0
Compliance rate (%)	100.0	92.4
Numbers of industrial meters	2,624	0.0
Number of scheduled readings for industrial meters	31,488	100.0
Number of actual readings for industrial meters	30,111	1,087,938
Percentage of industrial meter readings	95.6%	1,008,624
Percentage breach (%)	0.0	90.0
Compliance rate (%)	100.0	92.7

OES 5: System Losses.

System losses arise because of a discrepancy between the amount of energy that is delivered into the system and the amount of energy from which revenue is derived. However, some losses occur because of technical factors, which relate to system design and operation. These can be minimized but not totally eliminated. Non-technical losses, on the other hand, arise from causes such as billing and metering, and from the illegal usage of electricity. This standard seeks to encourage T&TEC to eliminate sources of unmetered supply and to improve the efficiency of the electrical system. The requirement of the standard is that total system losses not exceed 7.5%.

The system losses for the first two quarters were well below the prescribed 7.5%. However, for the third and fourth quarters, systems losses rose slightly to 8.9% and 8.8% respectively. In **Table 14** it can be seen that the load increased considerably during the second half of the year as evidenced by the increase in energy purchased. Since technical losses increase proportionally to the square of the load, there is an increase in system losses. So far there has been no plausible explanation proffered by T&TEC for the unusually small increase in the energy sold to customers from the second quarter to the third.

Table 14 - System Losses for 2006

Item	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2006	TOTAL 2005
Energy purchased from generators (MWH)	1,756,198	1,755,720	1,858,506	1,841,766	7,212,190	6,878,262
Energy sold to customers (MWH)	1,601,963	1,635,172	1,637,425	1,650,944	6,691,533	6,525,504
System Losses (MWH)	99,154	94,459	164,615	162,428	520,657	352,757
System Losses (%)	5.6	5.4	8.9	8.8	7.2	5.4
Percentage breach (%)	0.0	0.0	100	100	0.0	0.0
Compliance Rate (%)	100	100	0.0	0.0	100.0	100.0

At the time of implementation of the Quality of Service Standards (April 2004), the RIC defined system losses as the difference between energy received and energy delivered, and it was calculated as a simple difference. However in June 2006, the RIC proposed the under mentioned

method for calculating systems losses in its Final Determination and this new method will be adopted in 2007:

$$\text{Total System Losses} = 1 - \left\{ \frac{\text{Energy Units Billed}}{\text{Energy Units Purchased}} \times \frac{\text{Collection in \$}}{\text{Billing in \$}} \right\}$$

OES 6: Response to Customer Queries/Requests (written).

T&TEC receives queries and/or requests for services in both verbal and written form. This standard focuses on the written form with a view to improving the response to customer queries/requests. As such this standard requires the following performance with respect to written customer queries or requests:

- (a) The time to respond after receipt of queries be less than 5 working days;
- (b) The time to complete investigation and to communicate final position be less than 15 working days of inquiry; and
- (c) The time to complete the investigation and communicate final position if third party is involved be less than 30 working days after third party actions are completed.

For the year 2006, T&TEC's compliance rates for OES 6 have shown some improvement over its performance in 2005. However, this is not necessarily as a result of improved response to and handling of the queries or requests. There was a 33% decline in the number of written requests received from the first quarter to the second quarter. Additionally this decline continued through to the 4th quarter. (**Table 15**).

Similarly, the compliance rates for the time to complete investigation and communicate final position within 15 working days also showed an improvement. For the last three (3) quarters of 2005 the average compliance rate was 10%, while for 2006, the average compliance rate was 25%. Although this was an improvement, it gives a false sense of improved performance since, as previously stated, there were fewer written queries/requests received.

Table 15 – Breaches under OES 6 – Response to Customers’ Queries/Requests (written)

Standard	Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL 2006	TOTAL 2005
Time to respond after receipt of queries	Number of written queries/request received	140	94	82	79	395	375
	Number not responded to within 5 working days (breach)	74	10	11	13	108	219
	Percentage Breach (%)	52.9	10.6	13.4	16.5	27.3	58.4
	Compliance Rate (%)	47.1	89.4	86.6	83.5	72.7	41.6
Time to complete investigation and to communicate final position	Number of investigations not completed and communicated within 15 working days (breach)	111	72	55	57	295	281
	Percentage Breach (%)	79.3	76.6	67.1	72.2	74.7	74.9
	Compliance Rate (%)	20.7	23.4	32.9	27.8	25.3	25.1
Time to complete investigation and communicate final position if a third party is involved	Number of investigations requiring with third party involvement.	189	195	199	145	728	N/A*
	Number of investigations with third party involvement, neither completed nor communicated within 30 working days	172	135	168	117	592	N/A*
	Percentage Breach (%)	91.0	69.2	84.4	80.7	81.3	N/A*
	Compliance Rate (%)	9.0	30.8	15.6	19.3	18.7	N/A*

N/A - there was no comparable data available for 2005.*

A main source of complaints against T&TEC was in the area of settling matters requiring third party involvement. As can be observed in **Table 15**, the compliance rates for the time to complete investigation and communicate final position if a third party is involved, were low, with an average annual compliance of 19%. T&TEC has repeatedly argued that this part of the

standard is out of their control since they have no influence on the length of time taken by the third party to complete their part of the investigation.

OES 7: Number of Complaints by Type.

The number of complaints received by T&TEC is an indicator of the quality of service received by customers. A reduction in the number of complaints should therefore be a reflection of improved customer service. This standard categorizes the complaints into three (3) main groups and requires the following performance levels:

- (a) For billing queries, no more than 500 telephone and/or written complaints per 10,000 customers per annum should be received;
- (b) For Voltage fluctuations/Damaged Appliance queries, no more than 300 telephone and/or written complaints per 10,000 customers per annum should be received; and
- (c) For Street Lights/Poles/Disconnections/Other complaints, no more than 1000 telephone and/or written complaints per 10,000 customers per annum should be received.

From **Table 16**, it can be observed that, in each category, the standard has been achieved.

Table 16 - Number of Complaints by Type, 2006

Item	Performance Data	Required performance units	Compliance rate (%)
Number of customers	375,348		
Number of billing queries complaints	9,456		
Number of billing queries complaints per 10,000 customers	252	<500	100.0
Number of voltage complaints	5380		
Number of voltage complaints per 10,000 customers	143	<300	100.0
Number of street lights/poles/disconnections, other complaints	36,339		
Number of street lights/poles/disconnections, other complaints per 10,000 customers	968	<1000	100.0

T&TEC had also achieved full compliance with each category of this standard in previous years.

OES 8: Prior Notice of Planned Outages.

It is necessary for T&TEC to perform maintenance or repair work on the transmission and distribution system which may involve the interruption of supply. This standard requires that at least 72 hours advance notice of planned outages be given to customers as a courtesy to customers for the inconveniences that might arise. **Table 17** gives the number of breaches and the compliance rate for OES 8. There were 2564 planned outages for the year 2006, but 1008 planned outages for which 72 hours' notice was not given. This translated into a compliance rate of 61% which was also less than the 74% compliance achieved in 2005. There continues to be the need for considerable improvement by T&TEC in this area.

Table 17 - Notice of Planned Outages

Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL 2006	TOTAL 2005
No. of planned outages	697	545	605	717	2,564	1779
No. of planned outages for which 72 hours advance notice was not given	336	241	282	149	1,008	457
Percentage Breach (%)	48.2	44.2	46.6	20.8	39.3	25.7
Compliance rate (%)	51.8	55.8	53.4	79.2	60.7	74.3

OES 9: Correction of Low/High Voltage.

T&TEC is required by law to supply all its customers at specified voltage levels according to customer requirements, and with variations in voltage levels not exceeding six percent (6%) of the nominal voltage level. There are occasions when customers experience voltage level fluctuations to their premises, and this should be corrected by T&TEC in a timely manner. This standard seeks to encourage a prompt response by requiring that voltage complaints be responded to within 24 hours and rectified within 15 working days.

T&TEC's compliance rate for this standard has been consistently high over the period. The total number of voltage complaints received for the year was 2755, while the total number of voltage complaints not responded to within 24 hours was 2, that is, a compliance rate of 99.9%. On the other hand, the number of complaints not rectified within 15 working days was 115 for the year, a compliance rate of 95.8%. **Table 18** shows the performance under this standard.

Table 18 - Correction of Low/High Voltage

Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL 2006	TOTAL 2005
Number of voltage complaints received	634	673	741	707	2755	3129
Number of complaints not responded to within 24 hours (breach)	1	1	0	0	2	16
Percentage breach (%)	0.2	0.1	0.0	0.0	0.1	0.5
Compliance rate (%)	99.8	99.9	100.0	100.0	99.9	99.5
Number of complaints not rectified within 15 working days (breach)	35	23	27	30	115	169
Percentage breach (%)	5.5	3.4	3.6	4.2	4.2	5.4
Compliance rate (%)	94.5	96.6	96.4	96.8	95.8	94.6

SECTION 3 SUMMARY AND CONCLUSIONS

3.1 Summary of Performance under Guaranteed Standards

There are six Guaranteed Standards, and once again as in 2005, only two of the six standards have achieved full compliance, with no breaches for the period under review. They are GES 4 (Making and Keeping Appointments) and GES 5 (Time to Credit Compensatory Payments), the same standards that were fully compliant last year. GES1 and GES 3 also maintained a compliance rate of over 99%. **Table 19** below presents T&TEC's compliance rates for the Guaranteed Standards.

Table 19 - Summary of Compliance – Guaranteed Standards

Standard		Compliance Rates (%)				
		1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL* 2006
GES 1 – Response and Restoration Times of Supply after unplanned outages on the distribution system		99.9	99.9	99.9	99.9	99.9
GES 2 – Billing Punctuality	Residential	50.5	37.4	44.1	51.9	45.9
	Non Residential	53.8	75.0	17.9	28.6	47.7
GES 3 – Reconnection after Payment of overdue amount/ agreement		99.5	99.8	100.0	99.8	99.8
GES 4 – Making and Keeping Appointments		100.0	100.0	100.0	100.0	100.0
GES 5 – Time to credit Compensatory Payment	Credit	100.0	100.0	100.0	100.0	100.0
	Complete investigation	100.0	100.0	100.0	100.0	100.0
GES 6 – Connection to supply	Service drop and meter to be installed <30m	99.7	95.7	99.4	83.5	94.3
	Provision of estimate (30 to 100m)	79.3	99.0	73.2	98.0	92.8
	Complete construction (30 to 100m)	83.6	89.8	67.9	94.4	88.1
	Provision of estimate (100 to 250m)	86.5	92.0	71.4	80.6	82.0
	Complete construction (100 to 250 m)	94.6	64.0	80.0	77.8	80.5

**Computed using actual quarterly raw data and NOT based on the average of quarterly compliance rates*

The most breaches occurred in the Guaranteed Standard GES 2, that is, 72.4% of the total, unlike 2005 when the most breaches occurred in GES1. GES 1 was responsible for 21.4% of the total breaches, followed by GES 6 with 5.9% of the total (**Table 20**).

Table 20 - Number of Breaches under the Guaranteed Standards by Quarter (2006)

Standard		1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2006	%age 2006
GES 1 – Response and Restoration Times of Supply after unplanned outages on the distribution system		357	673	919	1352	3301	21.4
GES 2 – Billing Punctuality	Residential	1979	3386	2816	2929	11,110	72.4
	Non-residential	12	14	32	20	78	
GES 3 – Reconnection after Payment of overdue amount/ agreement		27	9	2	13	51	0.3
GES 4 – Making and Keeping Appointments		0	0	0	0	0	0
GES 5 – Time to credit Compensatory Payment		0	0	0	0	0	0
GES 6 – Connection to supply		60	180	100	567	907	5.9
TOTAL		2435	4262	3869	4881	15,447	

Based on the number of breaches this year, T&TEC would have been required to compensate customers for 15,447 breaches, which were significantly lower than the 25,145 breaches that occurred in 2005. The RIC estimates that compensatory payments of over \$463,400 would have been due to customers, had claims been made, verified and approved for payment. However, only one claim was made in 2006 and a payment of only \$30 by T&TEC. It is hoped that the recommendations made by the RIC in its **Final Determination** on T&TEC’s Rate Review Application will result in better customer awareness of the compensatory process.

3.2 Summary of Performance under Overall Standards

There are nine (9) Overall Standards and there was full compliance in four (4) of these, namely OES 1 (Line faults repaired within 48 hours), OES 3 (Frequency of meter testing), OES4 (Frequency of meter reading) and OES 7 (Number of complaints by type). For the other five

Overall Standards, there were breaches over the period January to December 2006. The performance under OES 6 (Response to customer queries/requests) continued to be the worst under the overall standards. **Table 21** gives the summary of compliance rates of T&TEC under the Overall Standards for the year 2006.

Table 21 - Summary of Compliance – Overall Standards

Standard		1 st Quarter Compliance Rate (%)	2 nd Quarter Compliance Rate (%)	3 rd Quarter Compliance Rate (%)	4 th Quarter Compliance Rate (%)	Annual Compliance* (%)
OES 1 – Line faults affecting customers repaired within 48 hours		100.0	100.0	100.0	100.0	100.0
OES 2 – Billing Punctuality		83.9	104.0	73.2	103.4	90.8
OES 3 – Frequency of meter testing		100.0				100.0
OES 4 – Frequency of meter reading		100.0				100.0
OES 5 – System Losses		100.0	100.0	0.0	0.0	0.0
OES 6 – Response to customer queries/requests (written)	6.1	47.1	89.4	86.6	83.5	72.7
	6.2	20.7	23.4	32.9	27.8	25.3
	6.3	9.0	30.8	15.9	19.3	18.7
OES 7 – Number of complaints by type		100.0				100.0
OES 8 – Prior notice of planned outages		51.8	55.8	53.4	79.2	60.7
OES 9 – Correction of low/high voltage complaints	9.1	99.8	99.9	100.0	100.0	99.9
	9.2	94.5	96.6	96.4	95.8	94.6

**Computed using actual quarterly raw data and NOT based on the average of quarterly compliance rates*

3.3 Conclusion

Generally T&TEC's performance has improved during 2006. Full compliance was achieved for two (2) guaranteed standards, GES 4 and GES 5, and four (4) overall standards OES 1, OES 3,

OES 4 and OES7. Three (3) standards, GES 1, GES 3 and OES 9 maintained their level of performance at over 95%. GES 6 which is broken into five (5) categories maintained its previous levels of performance for the different categories.

There was improved performance in the two of the three categories of OES 6, though the improvement still did not raise the performance levels to what can be considered acceptable. In the following standards, GES 2, OES 2, OES 5 and OES 8 performance levels dropped. The declining performance in GES 2 was significant with a decrease from 99.3% to 45.9% for Residential customers, and from 90.7% to 47.7% for Non Residential customers. Similarly, OES 8 whose previous annual compliance 76.0% in 2005, dropped to an average of 60.7%.

The RIC must take action where T&TEC's performance falls below the 'acceptable' level, or where it has deteriorated in comparison with performance in the previous year(s). T&TEC must give the reasons for its poor performance and the actions it proposes to take to improve it. The RIC will insist that T&TEC establish targets for rapid improvement to meet the required standards.

APPENDIX 1

Table A1 presents a description of the Guaranteed Standards, the required performance units, and the compensatory payment levels for each standard.

Table A1 - Guaranteed Standards

Code	Service Description	Performance Measure	Required Performance Units	Payments per Customers *
GES1	Response and restoration time after unplanned (forced) outages on the distribution system.	Time for restoration of supply to affected customers	Within 12 hours For each further 12 hr period	\$30 (residential) \$200 (non-residential) \$20
GES2	Billing Punctuality (new customers)	Time for first bill to be mailed after service connection: (a) Residential (b) Non-Residential	65 days 35 days	\$30 (residential) \$200 (non-residential)
GES3	Reconnection after payment of overdue amounts or agreement on payment schedule	Time to restore supply after payment is made (All customers)	Within 24 hours	\$30 (residential) \$200 (non-residential)
GES4	Making and keeping appointments	Where required, appointments will be made on a morning or afternoon basis	Failure to give 24 hours notice of inability to keep the appointment	\$30 (residential) \$200 (non-residential)
GES5	Compensatory payment	(i) Time to credit compensatory payment after non-compliance (ii) Time to complete investigation, determine liability and make payment after receiving a claim.	Within 35 working days Within 35 working days	\$30 (residential) \$200 (non-residential)
GES6	Connection to supply: Under 30 metres 30 to 100 metres 30 to 100 metres 100 to 250 metres 100 to 250 metres	Service drop and meter to be installed: (a) Provision of estimate (subject to all documents being provided) (b) Complete construction (after payment is made) (a) Provision of estimate (subject to all documents being provided) (b) Complete construction (after payment is made)	Within 3 working days. Within 5 working days. Within 15 working days. Within 7 working days. Within 20 working days.	\$30 (residential) \$200 (non-residential)

Table A2 presents a description of the Overall Standards and the required performance units for each standard.

Table A2 - Overall Standards

Code	Description	Required Performance Units
OES1	Line faults repaired within a specified period (for line faults that result in customers being affected)	100% within 48 hours
OES2	Billing punctuality	98% of all bills to be mailed within ten (10) working days after meter reading or estimation
OES3	Frequency of meter testing	10% of industrial customers' meters tested for accuracy annually.
OES4	Frequency of meter reading	(i) 90% of industrial meters should be read every month (j) 90% of residential and commercial meters read according to schedule
OES5	System revenue losses (difference between energy received and energy for which revenue is derived)	7.5 % of total energy delivered to customers
OES6	Response to customer queries/requests (written) (a) Time to respond after receipt of queries. (b) Time to complete investigation and to communicate final position (c) Time to complete investigation and communicate final position if third party is involved (e.g. insurance claim.)	Within 5 working days Within 15 working days of inquiry Within 30 working days after third party actions completed
OES7	Number of complaints to TTEC by type: (c) Billing queries (d) Voltage Fluctuations/Damage (e) Street Lights/ Poles/Disconnections/Other	(a) 500 telephone and/or written complaints per 10,000 customers per annum (b) 300 telephone and/or written complaints per 10,000 customers per annum (c) 1000 telephone and/or written complaints per 10,000 customers per annum
OES8	Prior Notice of planned outages	At least 72 hours (3 days) advance notice of planned outages 100% of the time
OES9	Correction of Low/ High Voltage complaints	All voltage complaints to be responded to within 24 hours and rectified within 15 working days

APPENDIX 2

Table A3 shows the compliance rates of the Trinidad and Tobago Electricity Commission with respect to the Guaranteed Standards for Electricity Transmission and Distribution for the period April 2004 to December 2006.

Table A3 – Compliance Rates (%) for Guaranteed Standards from April 2004 to December 2006

Standard Code	2004			2005				2006			
	April to June	July to Sept	Oct to Dec	Jan to March	April to June	July to Sept	Oct to Dec	Jan to March	April to June	July to Sept	Oct to Dec
GES 1	99.0	99.2	98.7	99.7	98.1	99.8	99.6	99.9	99.9	99.9	99.9
GES 2 a	99.2	100.0	100.0	96.9	100.0	100.0	100.0	50.5	37.4	44.1	51.9
GES 2 b	75.0	100.0	93.7	75.0	100.0	90.6	100.0	53.8	75.0	17.9	28.6
GES 3	100.0	99.3	98.5	98.5	99.4	99.3	100.0	99.5	99.8	100.0	99.8
GES 4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GES 5 a	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GES 5b	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GES 6 a	98.9	98.6	98.2	99.0	99.7	99.4	99.4	99.7	95.7	99.4	83.5
GES 6 b	56.0	58.2	66.9	66.0	70.9	73.2	88.6	79.3	99.0	73.2	98.0
GES 6c	93.4	77.1	65.3	84.5	70.9	67.9	83.3	83.6	89.8	67.9	94.4
GES 6d	52.9	58.8	63.5	100.0	76.0	71.4	95.0	86.5	92.0	71.4	80.6
GES 6e	85.3	58.8	82.4	83.3	64.0	80.0	85.0	94.6	64.0	80.0	77.8

Note: A dash indicates that the data was not provided.

Table A4 shows the compliance rates of the Trinidad and Tobago Electricity Commission with respect to the Overall Standards for Electricity Transmission and Distribution for the period April 2004 to December 2006.

Table A4 - Compliance Rates for Overall Standards from April 2004 to December 2006

Standard Code	2004			2005				2006			
	April to June	July to Sept	Oct to Dec	Jan to March	April to June	July to Sept	Oct to Dec	Jan to March	April to June	July to Sept	Oct to Dec
OES 1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
OES 2	35.0	51.0	90.0	97.0	100.0	100.0	100.0	83.9	104.0	73.2	103.4
OES 3	14.0			100.0				100.0			
OES 4a	96.0			100.0				100.0			
OES 4b	92.0			100.0				100.0			
OES 5	100.0			100.0	100.0	100.0	100.0	100.0	100.0	0	0
OES 6a	23.0	48.0	64.0	61.7	46.9	32.5	32.9	47	89	87	84
OES 6b	74.0	54.0	17.0	96.0	13.5	7.1	8.2	21	23	33	28
OES 6c	-	-	-	-	-	-	-	9	31	16	19
OES 7 a	100.0			100.0				100.0			
OES 7 b	100.0			100.0				100.0			
OES 7 c	100.0			100.0				100.0			
OES 8	88.0	55.0	86.0	76.3	76.2	78.5	67.3	52.0	56.0	53.0	79.0
OES 9 a	95.0	98.0	99.0	99.1	99.8	99.1	99.8	100.0	100.0	100.0	100.0
OES 9 b	87.0	87.0	91.0	93.4	98.5	92.6	93.7	94	97	96	96

Note: A dash indicates that the data was not provided.

These charts give a visual representation of the performance of T&TEC by indicating the compliance rates for selected standards for the period April 2004 to December 2006.

Figure A1- Compliance Rate for GES 1

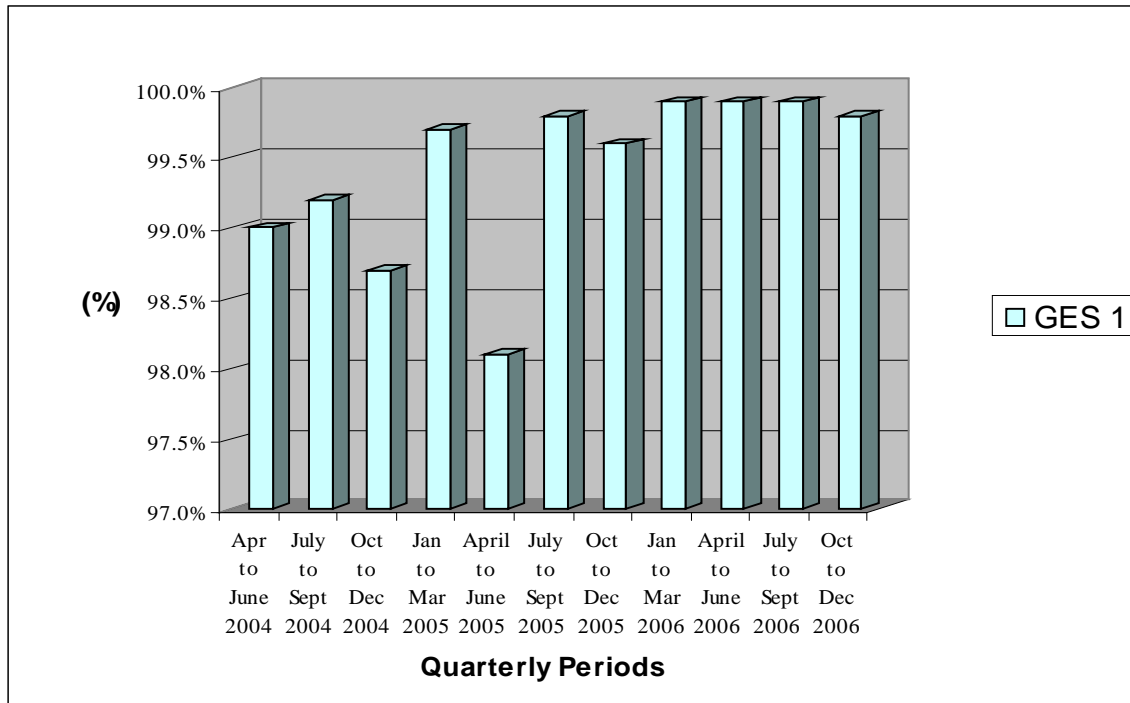


Figure A2- Compliance Rate for GES 2

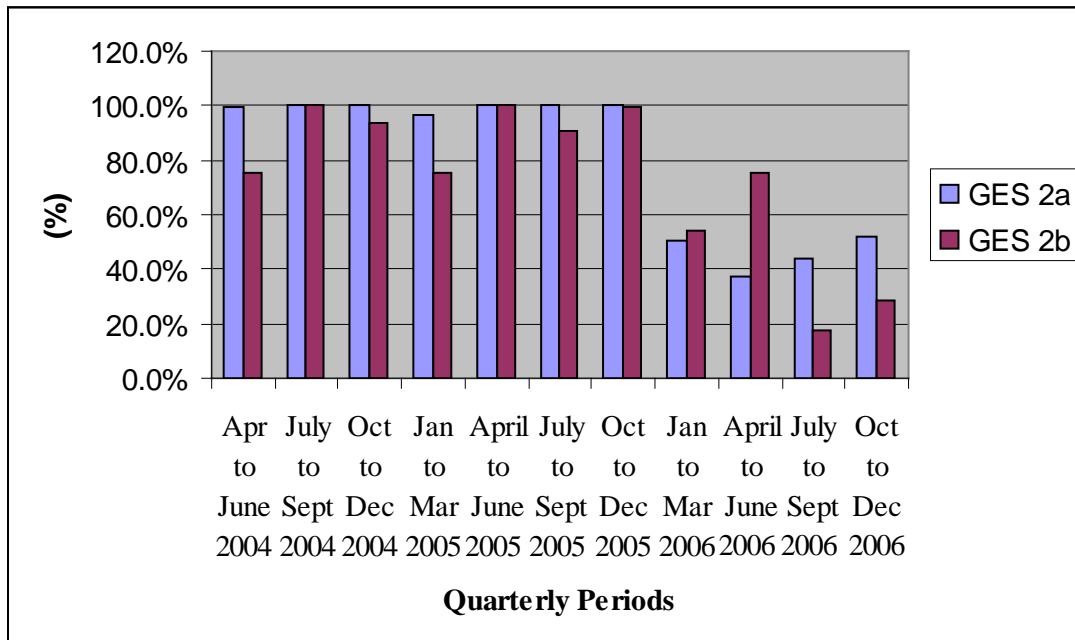


Figure A3- Compliance Rate for GES 3

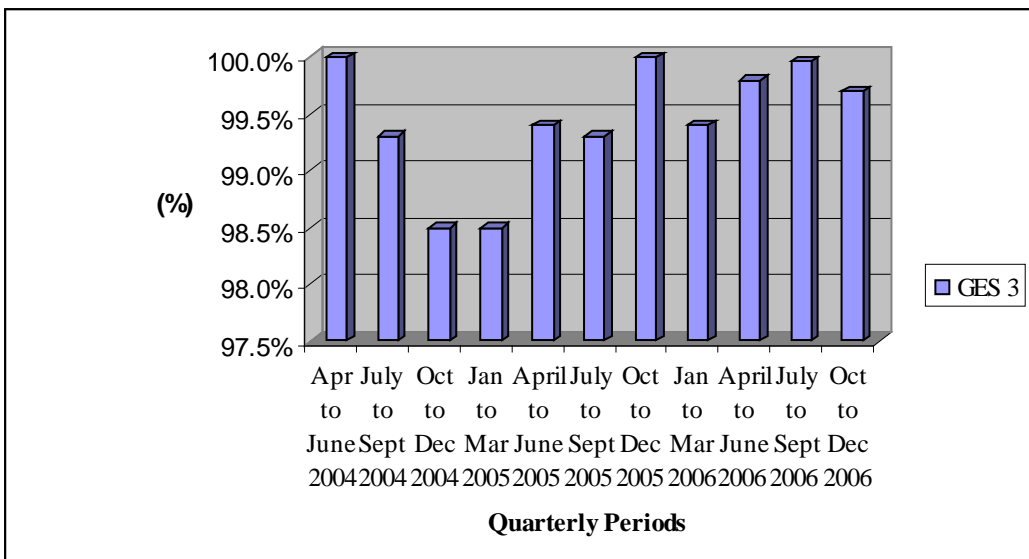


Figure A4 – Compliance Rate for GES 6

