



**QUALITY OF SERVICE STANDARDS
ANNUAL PERFORMANCE REPORT
2008**

**ELECTRICITY TRANSMISSION AND
DISTRIBUTION SECTOR**

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EXECUTIVE SUMMARY

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

This is the fifth Annual Performance Report by the RIC, and its purpose is to present an analysis of the performance of the Trinidad and Tobago Electricity Commission (T&TEC) with respect to the established Quality of Service Standards, over the four quarterly periods from January to December 2008. The report examines 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 year.

Summary of 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. These generally relate to the relationship between the utility and the individual customer. At present, six (6) Guaranteed Standards exist for T&TEC.

In 2008, a total of 23,885 breaches were recorded for which T&TEC would have been required to compensate customers. The highest number of breaches (13,271, which represents 55.6% of the total) was recorded for the Guaranteed Standard, GES 1, while the next highest number (10,246 or 42.9%) was recorded for GES 2. Together, these two standards accounted for 98.5% of all of the breaches under the Guaranteed Standards. Overall, there has been a decline in the performance of T&TEC in meeting the Guaranteed Standards for the period January to December 2008 when compared with the previous year, 2007.

Based on the number of breaches, the RIC estimates that compensatory payments of approximately \$716,550 would have been due to customers had claims been made and payments approved. However, no claims were made in 2008. The low level of claims continues to be an area of concern to the RIC.

The following table presents the assessment of T&TEC's performance against the established Guaranteed Standards for 2008.

Table I - Compliance under Guaranteed Standards

Code	Service Description	Performance Measure	2008 Compliance Rates (%)
GES1	Response and restoration time after unplanned (forced) outages on the distribution system.	Time for restoration of supply to affected customers	99.5
GES2	Billing Punctuality (new customers)	Time for first bill to be mailed after service connection: (a) Residential (b) Non-Residential	52.8 8.6
GES3	Reconnection after payment of overdue amounts or agreement on payment schedule	Time to restore supply after payment is made (All customers)	99.9
GES4	Making and keeping appointments	Where required, appointments will be made on a morning or afternoon basis	62.8
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.	N/A N/A
GES6	Connection to supply:	Service drop and meter to be installed	99.95
	Under 30 metres	(a) Provision of estimate (subject to all documents being provided)	68.6
	30 to 100 metres	(b) Complete construction (after payment is made)	56.8
	30 to 100 metres	(a) Provision of estimate (subject to all documents being provided)	56.7
	100 to 250 metres	(b) Complete construction (after payment is made)	69.1

Summary of 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.

With respect to the Overall Standards, there was full compliance with three of them - OES 1 (Line faults repaired within 48 hours), OES 3 (Frequency of meter testing) and OES 4 (Frequency of meter reading). While there were breaches during the period January to December 2008 for the other six Overall Standards, T&TEC's performance under OES 2 (Billing Punctuality), OES 6 (Response to customer queries/requests), and OES 8 (Prior notice of planned outages) were not satisfactory.

An assessment of T&TEC's performance with respect to the Overall Standards is presented in **Table II.**

Table II - Compliance under Overall Standards

Code	Description	Required Performance Units	2008 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	41.5
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	100.0
OES6	Response to customer queries/requests (written) (i) Time to respond after receipt of queries.	Within 5 working days	73.5
	(ii) Time to complete investigation and to communicate final position	Within 15 working days of inquiry	68.1
	(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	75.4
OES7	Number of complaints to TTEC by type: (a) Billing queries	500 telephone and/or written complaints per 10,000 customers per annum	0.0
	(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	48.0
OES9	Correction of Low/ High Voltage complaints	All voltage complaints to be responded to within 24 hours.	98.9
		All voltage complaints to be rectified within 15 working days.	96.8

SECTION 1 INTRODUCTION

This is the fifth Annual Performance Report of the RIC on the Quality of Service Standards (QSS) 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 customers of the service providers in key service areas. The QSS for the Electricity Transmission and Distribution Sector were implemented on April 13th, 2004.

1.1 Purpose of Document

The purpose of this report is to present an analysis of the performance of T&TEC with respect to the QSS over the four quarterly periods, January to December 2008. 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:

- In Section 2, the performance of T&TEC in the areas of each of the Guaranteed and Overall Standards is presented;
- The summary and conclusion are presented in Section 3;
- In Appendix 1, tables of the Guaranteed and Overall Standards with a description of the required performance units, and the compensatory payment levels for each standard are presented; and
- In Appendix 2, a table and charts showing the compliance rates of the Trinidad and Tobago Electricity Commission with respect to the Guaranteed and Overall Standards for Electricity Transmission and Distribution for the period April 2004 to December 2008 are presented.

SECTION 2 PERFORMANCE REVIEW FOR THE PERIOD JANUARY TO DECEMBER 2008

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, and they generally relate to the relationship between the utility and the individual customer. There are six guaranteed standards. The performance of the service provider in each of these is reviewed below.

GES 1: Response and Restoration Times of Supply.

One way of measuring of T&TEC's efficiency is by observing 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. Accordingly, this standard requires that supply be restored to affected customers within 12 hours after an unplanned outage on the distribution system.

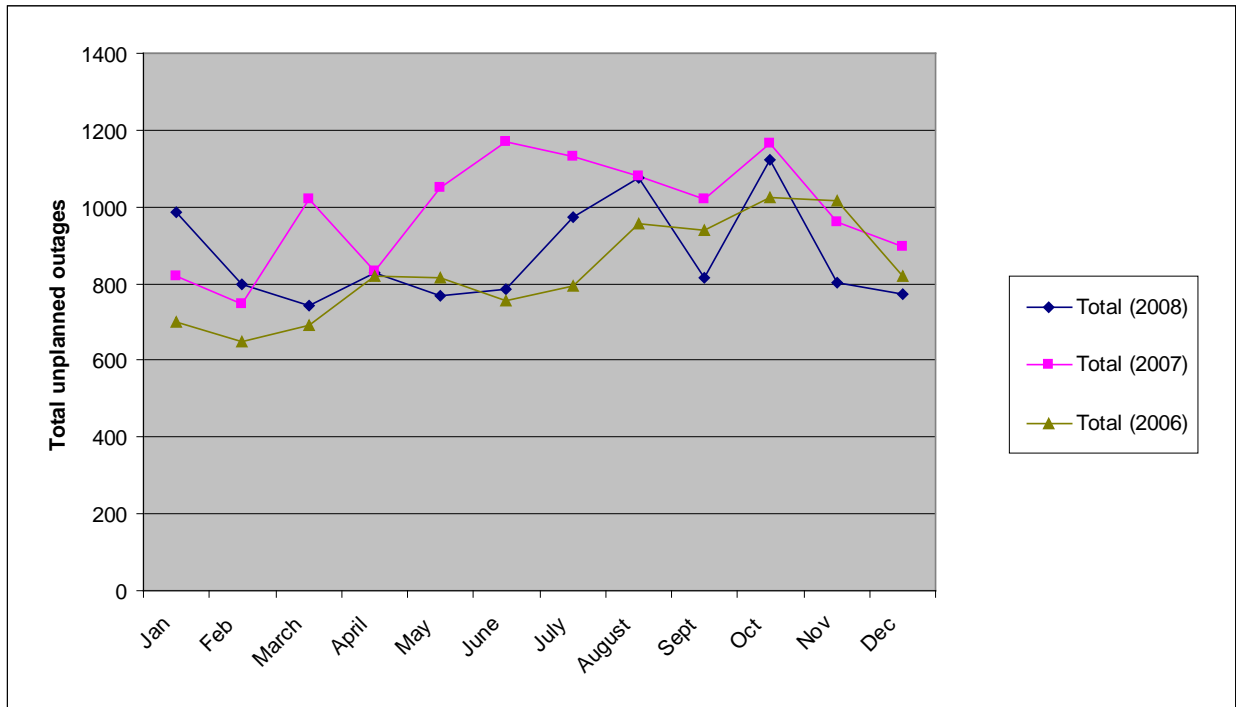
There was a total of 10,466 unplanned outages in 2008. It can be observed in **Table 1**, that a low of 743 occurred in March, and a peak of 1,122 in October. In comparison with 2007, a similar pattern was observed. More outages occurred in the second half of the year in both instances, and this may be attributed to adverse weather patterns at this time of the year. There was a 12% decline in the number of unplanned outages in 2008 when compared with 2007. There had been steady increases in the previous years.

Table 1 - No. of unplanned outages for the period January to December 2008

Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	TOTAL (2008)	TOTAL (2007)	TOTAL (2006)
North	188	163	160	165	171	172	228	207	220	272	159	165	2270	2214	2289
South	253	200	159	184	200	112	154	187	165	147	119	102	1982	3436	2427
Tobago	74	78	62	123	92	81	145	102	102	108	95	81	1143	1092	873
East	295	223	214	221	171	274	299	409	81	404	294	249	3134	2664	2331
Central	174	133	148	133	135	148	146	172	249	191	134	174	1937	2488	2062
TOTAL (2008)	984	797	743	826	769	787	972	1077	817	1122	801	771	10466		
TOTAL (2007)	821	745	1022	833	1048	1168	1131	1081	1020	1167	961	897		11894	
TOTAL (2006)	700	649	692	819	817	754	794	958	937	1024	1017	821			9982

In the two years prior to 2008, a pattern of a low number of unplanned outages in first quarter and a high number in the fourth quarter was observed, mainly because the dry season is at its peak in the first quarter, and the rainy season, when more severe weather is experienced, occurs in the fourth quarter.

Figure 1- Unplanned Outages from 2006 to 2008



A breach of GES 1 occurs when the electricity supply to each customer is not restored within 12 hours of the report being received by the utility. 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 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 shows the number of customers experiencing outages and the number of breaches for 2008 which totals 13,271, as compared to 3,760 in 2007 and 3,301 in 2006. It can be observed that most breaches of the standard (3468) occurred in the month of July.

Table 2 - Response and Restoration Times of Supply - 2008

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL (2008)
No. of customer outage incidents > 12 hours (2008)	31	126	1571	126	667	1,432	3,468	1,603	1,251	524	1,401	1,071	13,271
No. of customers affected by outages (2008)	254,688	139,304	157,291	249,351	250,831	216,396	316,065	250,831	216,396	323,883	237,255	194,444	2,806,735
Percentage breach (%)	0.01	0.09	1.00	0.05	0.27	0.66	1.10	0.64	0.58	0.16	0.59	0.55	0.47
Compliance Rate (%)	99.99	99.91	99.00	99.95	99.73	99.34	98.90	99.36	99.42	99.84	99.41	99.45	99.53

The next highest figure was 1603, recorded in August. T&TEC reported that in July there was an accumulation of trouble reports mainly due to severe weather causing flooding in low lying areas, and industrial action by crews, and these led to delays to response and the restoration times of supply. Other reasons given by T&TEC included:

- Trees, fallen or otherwise;
- Blown transformer fuses and blown HT fuses;
- Burst low voltage wires; and
- Absence of equipment/vehicles to respond to trouble calls.

It should be noted that while the total number of customers affected by outages increased from 2006 to 2007, there was a decline in 2008. However, there was almost a four fold increase in the number of breaches from 2007 to 2008, resulting in a lower compliance rate for the year 2008.

See **Table 3**.

Table 3 – Compliance Rates for GES 1 – 2006 to 2008

	2008	2007	2006
Total no. of customer outage incidents >12 hours (2008)	13,271	3,760	3,301
No. of customers affected by outages (2008)	2,806,735	3,275,009	3,135,244
Percentage breach (%)	0.47	0.11	0.11
Compliance Rate (%)	99.53	99.89	99.89

Figure 2 - Total Monthly Customer Outages Incidents Greater than Twelve Hours – 2006 to 2008

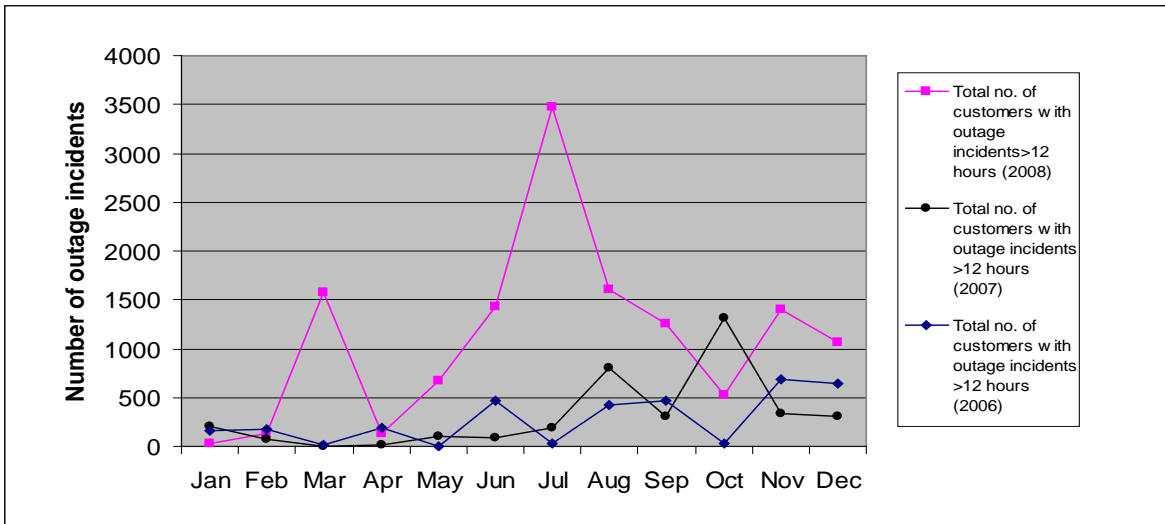


Figure 2 shows the number of breaches or the total monthly customer outage incidents greater than twelve hours for the years 2006 to 2008.

GES 2: Billing Punctuality (New customers).

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.

As may be seen from **Table 4**, there was a general decline in the compliance rate for this standard for both residential and non-residential customers over the period. T&TEC was unable to meet the standard for billing punctuality in any quarter of the year for both residential and non-residential customers.

The breaches for residential customers have been as a result of the fact that the new automated meters that had been installed at domestic customers' premises and there were resultant delays in the timely receipt of appropriate information by T&TEC for billing. No reason was given by T&TEC for the low compliance rate for non-residential customers.

Table 4 - Billing Punctuality

Item		1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2008	TOTAL 2007	TOTAL 2006
Number of new customers requesting supply	Residential	5,043	4,841	5,281	6,558	21,723	20,779	20,543
	Non-Residential	19	48	40	40	147	118	149
No. of bills not mailed within 65 days (Residential) (breach)		2,010	1,771	3,165	3,300	10,246	10,508	11,110
No. of bills not mailed within 35 days (Non-Residential) (breach)		11	45	39	40	135	106	149
Percentage breach (%)	Residential	39.9	36.6	59.9	50.3	47.1	50.6	54.1
	Non Residential	57.9	93.8	97.5	100.0	91.8	89.8	52.3
Compliance Rate (%)	Residential	60.1	63.4	40.1	49.7	52.8	49.4	45.9
	Non Residential	42.1	6.2	2.5	0.0	8.6	10.2	47.7

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

Customers of T&TEC are disconnected for non-payment of bills. Once a bill has been settled or some agreement has been reached on a payment schedule, T&TEC should demonstrate efficiency in its response to restore the service. This standard requires that reconnection of supply after payment of overdue amounts be completed within 24 hours.

As shown in **Table 5**, the compliance rate remained consistently high for this standard in 2008, with 100% compliance being achieved in the third and fourth quarters. The number of disconnections in 2008 was 46% less than in 2007 and the number of customers making payments or arrangements in 2008 was 39% less than in 2007. This was due mainly to the issues surrounding retroactive billing, during which time, T&TEC had made a decision to suspend disconnecting customers, resulting in a lower number of disconnections for the year 2008.

Table 5 - Reconnection after Payment of Overdue Amounts or Agreement

Item	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL (2008)	TOTAL (2007)	TOTAL (2006)
Total Disconnections	4,454	3,039	2,267	585	10,345	19,098	23,174
Customers making payments/arrangements	3,919	2,245	1,702	592*	8,458	13,920	20,688
Number not reconnected within 24 hours	3	3	0	0	6	68	51
Percentage breach (%)	0.1	0.1	0.0	0.0	0.6	0.5	0.2
Compliance Rate (%)	99.9	99.9	100.0	100.0	99.95	99.5	99.8

***NOTE: The 4th Quarter figure for “Customers making payments/arrangements” is larger than the figure for “Total Disconnections” because of a quantity brought forward from the 3rd quarter. The reason given by T&TEC was that payments were not always made in the same period that the disconnections took place.**

GES 4: Making and Keeping Appointments.

It is sometimes necessary for T&TEC to make appointments to visit customers’ premises. In the unfortunate event that appointments made by T&TEC are not kept, customers are more greatly inconvenienced. The standard requires that 24 hours notice of inability to keep appointments be given to customers.

There was a total of 5393 appointments made in 2008, a 27% increase over the figure for 2007. Fifty nine appointments were cancelled with 24 hours’ notice being given. **Table 6** shows that there was progressively improved performance for this standard from the first to the fourth quarters of 2008, with 99.0% compliance being achieved in the fourth quarter, and an overall improved performance when compared with the previous year.

Table 6 – Making and Keeping Appointments

Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL (2008)	TOTAL (2007)	TOTAL (2006)
Number of appointments arranged with customers	1,138	1,251	1,612	1,392	5,393	4241	128
Number of appointments not kept within 30 mins of appointed time	40	20	20	14	94	24	0
Number of appointments cancelled or postponed with 24 hours notice	17	8	14	20	59	0	0
Percentage breach (%)	3.6	1.6	1.3	1.0	1.76	12.5	0.0
Compliance Rate (%)	96.4	98.4	98.7	99.0	98.23	87.5	100.0

GES 5: Compensatory Payments.

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

As in 2007, no claims were received under GES 5 (Time to Credit Compensatory Payments) during 2008 and hence there was no opportunity to assess T&TEC’s performance under this standard.

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. This standard sets a response time to

requests for new connection services from the time of requests to the point of actual connection and requires the following:

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

(b) For connections between 30 and 100 metres, the provision of estimate (subject to all documents being provided) should occur within five working days. Time to complete construction after payment is made should be within 15 working days.

(c) For connections between 100 to 250 metres, the provision of estimate (subject to all documents being provided) should occur within seven working days. Time to complete construction after payment is made should be within 20 working days.

As can be observed in **Table 7 (page 11) Item 6a**, while the number of supply connections less than 30 meters was substantial for each quarter (between 3400 and 4100 requests), on average, the compliance rate was 99.9% for the year.

A gradual decrease in performance was observed in each quarter Item 6b (supply connections requested between 30 to 100 m: estimates not provided within five working days), with a high of 85.3% in the first quarter to a low of 46.2% in the fourth quarter. On average, a compliance rate of 68.6% was achieved for 2008 - a decline in performance when compared with the previous year's performance in this category, where the compliance rate averaged 94.8%.

A similar trend was observed in Item 6c (supply connections requested between 30 to 100 m: jobs not completed within 15 working days). The compliance rate decreased from 80.9% to 46.2% from the first to the fourth quarter in 2008, with an overall average of 56.8%. In 2007, however, it decreased from 89.0% to 77.0%, an average of 80.5%.

A significant decline in performance also occurred in Item 6d (supply connections requested from 100 to 250 m; estimates not provided within 7 working days), in which the compliance rate ranged from a high of 93.3% to a low of 55.6%, an average of 74.7% for the year. This can be compared with an average of 93.5% for the same statistic in 2007.

In item 6e, the compliance rate ranged from a high of 85.2% to a low of 40.0%, an average of 69.1% for the year. There was also a slight decline in the average performance when compared to figures in 2007, in which the compliance rate averaged 70.7% for the year. There is a definite need for T&TEC to examine its processes in order to determine ways in which Items 6b, 6c, 6d, and 6e of this standard may be met. The RIC will continue to closely monitor T&TEC's performance and intervene in the appropriate manner if necessary.

Table 7 - Connection to Supply

Guaranteed Standard Code GES 6	Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL (2008)	TOTAL (2007)
6a	No. of supply connections requested <30m	3426	3643	3492	4068	14629	14323
	No. not connected within 3 working days (breaches)	0	0	1	7	8	16
	Percentage breach%	0	0	0	0.2	0.05	0.1
	Compliance Rate %	100.0	100.0	100.0	99.8	99.95	99.9
6b	No. of supply connections requested – 30 to 100m	68	52	39	26	185	534
	No. of estimates not provided within 5 working days (breaches)	10	15	19	14	58	28
	Percentage breach%	14.7	28.8	48.7	53.8	31.3	5.2
	Compliance Rate %	85.3	71.2	51.3	46.2	68.6	94.8
6c	No. of jobs not completed within 15 working days (breaches)	13	24	29	14	80	104
	Percentage breach%	19.1	46.2	74.4	53.8	43.2	19.5
	Compliance Rate %	80.9	53.8	25.6	46.2	56.8	80.5
6d	No. of supply connections requested – 100 to 250m	27	15	15	18	75	92
	No. of estimates not provided within 7 working days (breaches)	6	4	1	8	19	6
	Percentage breach%	22.2	26.7	6.7	44.4	25.3	6.5
	Compliance Rate %	77.8	73.3	93.3	55.6	74.7	93.5
6e	No. of jobs not completed within 20 working days (breaches)	4	9	4	4	21	27
	Percentage breach%	14.8	60.0	26.7	22.2	30.9	29.3
	Compliance Rate %	85.2	40.0	73.3	77.8	69.1	70.7
Total No. of Breaches		33	52	54	47	186	181

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 such standards are in place 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 service to customers being affected be repaired within 48 hours. There were no breaches in this standard for the period, with all faults being repaired within 48 hours.

There was an overall increase of 46% over the previous year's total in the number of line faults (322) recorded for the year 2008, with most of these occurring in the Eastern and Southern Distribution Areas. In 2007, a total of 221 was recorded, with most of these faults occurring in the South, followed by the East and North respectively. Of the 322 faults in 2008, 177 occurred at the 33kV level, 134 occurred at the 66kV level and 11 at the 132 kV level.

Table 8 - Number of Transmission Line Faults in 2008

Area	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			TOTAL (2008)	TOTAL (2007)
	33kV	66kV	132kV	33kV	66kV	132kV	33kV	66kV	132kV	33kV	66kV	132kV		
North	9	1	0	19	3	0	23	4	0	22	6	0	87	57
South	6	11	0	4	14	0	13	22	1	17	14	0	102	77
Tobago	0	0	0	0	0	0	1	0	0	0	0	0	1	1
East	7	7	0	12	8	1	26	11	2	18	10	1	103	58
Central	0	4	0	0	5	2	0	5	1	0	9	3	29	28
Total	22	23	0	35	30	3	63	42	4	57	39	4	322	221

Table 9 – Number of Transmission Line Faults by Voltage

Voltage	2008	2007	% Increase/Decrease
33kV	177	105	69
66kV	134	91	47
132kV	11	25	(56)
TOTAL	322	221	46

The substantial increases in the numbers of faults during 2008 at the 33kV and 66kV levels (as seen in **Table 9**) highlight the need for increased maintenance on these areas of the network.

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.

T&TEC was unable to achieve compliance with this standard in each quarter of 2008, with particularly poor performance in the third and fourth quarters. It stated that one of the reasons for non-compliance was that a retroactive billing exercise was conducted over the third and fourth quarters of 2008. This exercise was deemed necessary to address issues such as bills estimated for a prolonged period of time, for example, in high crime areas. It also addressed challenges faced with respect to the two rate increases in May and August of that year which coincided with the introduction of the automated metering. These issues caused delays in the preparation and mailing of bills to customers.

Table 10 - Billing Punctuality

Performance Data	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL (2008)	TOTAL (2007)
Number of meters read and estimated	508,268	549,755	518,961	772,999	2,349,983	2,298,900
Number of bills mailed within 10 working days	450,437	416,390	1154	87,716	955,697	1,987,390
Percentage of bills mailed within 10 working days (%)	88.6	75.7	0.2	11.3	40.7	86.4
Percentage breach (%)	9.6	22.8	99.8	88.5	58.5	12.2
Compliance rate (%)	90.4	77.2	0.2	11.5	41.5	87.8

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 that of the Residential and Commercial customers. As such, Industrial meters should be checked periodically to ensure continued accuracy. This standard requires that 10% of industrial customers' meters be tested for accuracy annually.

As shown in **Table 11**, the compliance rate for this standard was 100%, as 865 (29.0%) out of 3003 industrial meters were tested in 2008.

Table 11 – Frequency of Meter Testing

Item	Performance Data	
	2008	2007
Number of industrial meters	3,003	2,810
Number of industrial meters tested	865	2,082
Percentage of industrial meters tested (%)	29.0	74.1
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 12 shows the actual numbers of meters read, percentage breaches and compliance rates in 2008 for the reading of all categories of meters.

In the case of residential and commercial meter readings, for the year 2008, T&TEC was unable to attain full compliance with the standard. It can be observed that the scheduled number of meter reads increased by 51.8% while the actual number of meter reads for the year increased by 28.1% over 2007 figures. Meeting this standard would have been challenging for T&TEC during 2008, partially due to the increase in the number of meters installed at new housing developments and commercial buildings, and also due to delays in the processing of information on the Advanced Metering Infrastructure project.

The average scheduled monthly industrial meter readings for the year 2008 increased by 6.9% from 2007. Despite this increase, T&TEC was able to fully meet the standard, having obtained 95% of the scheduled meter readings for the year.

Table 12 - Frequency of Meter Reading

Item	Performance Data 2008	Performance Data 2007
Number of scheduled readings for residential and commercial meters	1,777,514	1,171,040
Number of residential and commercial meters read according to schedule	1,374,124	1,072,665
Percentage of residential and commercial meters read according to schedule	77.3%	91.6%
Percentage breach (%)	100	0
Compliance rate (%)	0	100
Numbers of industrial meters	3,003	2,810
Number of scheduled readings for industrial meters	36,036	33,720
Number of actual readings for industrial meters	34,245	30,697
Percentage of industrial meter readings	95.0%	91.0%
Percentage breach (%)	0	0
Compliance rate (%)	100	100

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. Some losses occur because of technical factors, which relate to system design and operation. These can be minimized but not eliminated. Other losses arise from non-technical or administrative causes, from billing and metering, and from the illegal usage of electricity. This standard seeks to encourage T&TEC to reduce technical losses and eliminate sources of unmetered supply so as to improve the efficiency of the electrical system, such that total system losses do not exceed 7.5%.

At the time of implementation of the QSS, “system losses” was defined as the difference between energy received and energy delivered. This difference by quarter is illustrated in **Table 13a**. The RIC developed a new formula in its Final Determination for calculating systems losses which is as follows:

$$\text{[1- Energy Billed/Energy Purchased *Collections/Billings]*100.}$$

This formula would yield more realistic values than the previous formula for systems losses since, by this method, more consideration is given to commercial losses. See **Table 13b**.

In the fourth quarter of 2008, a negative value for systems losses was obtained, since the figure presented by T&TEC for ‘Energy Billed’ to customers in MWH was larger than the value for ‘Energy Purchased’. T&TEC indicated that a retroactive billing exercise was conducted during the third and fourth quarters of 2008. Issues such as bills estimated for a prolonged period of time were addressed during the exercise and this would have had the effect of inflating the ‘Energy billed’ figures recorded during these quarters.

Using the RIC formula for the calculation of systems losses, the compliance rate was zero percent in the second and third quarters of 2008, with overall total system losses at 6.14%.

Table 13a- Systems Losses for 2008

Item	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2008	TOTAL 2007
Energy purchased from generators (MWH) (A)	1,846,881	1,972,855,	2,034,996	1,876,653	7,731,385	7,735,573
Energy sold to customers (MWH) (B)	1,757,943	1,621,925	2,015,780	2,148,903	7,544,551	7,082,588
System Losses (MWH) (A-B)	88,938	350,950	38,456	-272,250	186,834	652,985
System Losses (%)	5.1	21.6	1.9	-12.7	2.5	8.4
Percentage breach (%)	0.0	0.0	0.0	0.0	0.0	100.0
Compliance Rate (%)	100.0	100.0	100.0	100.0	100.0	0.0

Table 13b- Systems Losses for 2008 using RIC formula

Item	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL 2008
Energy Units Billed (kWh)	1,757,942,893	1,621,925,252	2,015,780,041	2,148,903,000	7,544,551,186
Energy Units Purchased (kWh)	1,846,881,000	1,972,855,000	2,034,996,000	1,876,653,000	7,731,385,000
Collections in \$	511,614,000	478,985,000	547,965,000	619,021,000	2,157,585,000
Billings in \$	516,379,563	488,880,742	588,872,373	649,034,357	2,243,167,035
System Losses using RIC formula (%)	5.69	19.45	7.83	-9.21	6.14
Percentage breach (%)	0.0	100.0	100.0	0.0	0.0
Compliance Rate (%)	100.0	0.0	0.0	100.0	100.0

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

T&TEC receives queries and/or requests for service in both verbal and written form. This standard focuses on the written form with a view to improve the customer service response. 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.

The breaches for each aspect of this standard are shown in **Table 14**. For the standard OES 6a, there has been an increase in the number of written complaints and queries in 2008 as compared to 2007 (399 and 308 respectively) and this may have contributed to the decline in the overall compliance rate (72.9% in 2008 from 89.0% in 2007), for the time to respond to receipt of queries.

For the standard OES 6b, the time to complete investigation and communicate final position, T&TEC has shown improvement in the average compliance rate for 2008 (68.4%) as compared to 2007 (52.0%), but the performance under this item of the standard still needs improvement. The compliance rate for 2008 was highest in the third quarter 2008 (89.3%) and lowest in the fourth quarter (50.9%).

For the standard OES 6c, the number of investigations with third party involvement, the compliance rate was highest in the first quarter (79.3%) and lowest in the third quarter (61.7%) of 2008. T&TEC was able to significantly improve its compliance rate overall for this standard in 2008, an average of 73.3% for the year, when compared with 2007 (39.0%).

Table 14 – Breaches under OES 6 – Response to Customers’ Queries/Requests (written)

Item	Standard	Description	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	TOTAL (2008)	TOTAL (2007)
OES 6a	Time to respond after receipt of queries	Number of written queries/request received	102	79	112	106	399	308
		Number not responded to within 5 working days (breach)	23	16	34	35	108	34
		Percentage Breach (%)	22.5	20.3	30.4	33.0	27.1	11.0
		Compliance Rate (%)	77.5	79.9	69.6	67.0	72.9	89.0
OES 6b	Time to complete investigation and to communicate final position	Number of investigations not completed and communicated within 15 working days (breach)	37	25	12	52	126	159
		Percentage Breach (%)	36.3	31.6	10.7	49.1	31.6	48.0
		Compliance Rate (%)	63.7	68.4	89.3	50.9	68.4	52.0
OES 6c	Time to complete investigation and communicate final position if a third party is involved (e.g. insurance claim)	Number of investigations with third party involvement.	87	99	162	106	454	479
		Number of investigations with third party involvement, neither completed nor communicated within 30 working days	18	14	62	27	121	188
		Percentage Breach (%)	20.7	14.1	38.3	25.5	26.7	61.0
		Compliance Rate (%)	79.3	85.9	61.7	74.5	73.3	39.0

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 improving customer service. This standard categorizes the complaints into three (3) main categories 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.
- (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.

T&TEC's customer base grew from 386,933 in 2007 to 399,092 customers in 2008, and there were 24,758 billing queries complaints for the period January to December 2008. This equates to 620 complaints per 10,000 customers – a breach of the standard and a significant decline in performance when compared with 2007 figures. The increased number of queries arose due to issues of late billings as a result of new automated metering installed at customers' premises and administrative issues with respect to the implementation of the rate adjustments during the months of May and August 2008.

The number of voltage complaints per 10,000 customers was 130 - well within the required range of 300 complaints per 10,000. Therefore, full compliance was achieved for this standard.

The number of street lights/poles/disconnections/other complaints per 10,000 was also within the requirements of the standard, with 443 complaints per 10000 customers received.

Table 15 - Number of Complaints by Type

Item	Performance Data 2008	Performance Data 2007	Required performance units	Compliance rate (%) (2008)	Compliance rate (%) (2007)
Total number of customers	399,092	386,933			
Number of billing queries complaints	24,758	11,416			
Number of billing queries complaints per 10,000 customers	620	295	<500	0.0	100.0
Number of voltage complaints	5,200	6,804			
Number of voltage complaints per 10,000 customers	130	176	<300	100.0	100.0
Number of street lights/poles/disconnections, other complaints	17,715	21,331			
Number of street lights/poles/disconnections, other complaints per 10,000 customers	443	551	<1000	100.0	100.0

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 for the inconveniences that might arise.

Table 16 gives the number of breaches and the compliance rate for OES 8. There were 4674 planned outages for the year. Of this number, there were 2858 planned outages for which 72 hours advance notice was not given. This is continued poor performance on the part of T&TEC, and worse than the performance in 2007.

Table 16 - Notice of Planned Outages

Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL 2008	TOTAL 2007
No. of planned outages	1145	1263	1354	912	4674	4243
No. of planned outages for which 72 hours advance notice was not given	710	816	827	505	2858	2198
Percentage Breach (%)	62.0	64.6	61.1	55.4	61.1	52.0
Compliance rate (%)	38.0	35.4	38.9	44.6	38.9	48.0

There was a low of 38.0% and a high of 44.6% in the first and fourth quarters respectively. The overall compliance rate in 2008 (38.9%) was less than that of 2007 (48.0%) which shows a decline in performance. T&TEC has been challenged to verify the instances where notices may have been given to areas where traditionally loud speakers are used. Notifications via the print and electronic media have been much easier to record, but a system for accurately capturing data for the other methods of notification still has to be developed.

OES 9: Correction of Low/High Voltage.

T&TEC is required by its Act 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 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.

With respect to this part of the standard, T&TEC's performance was fairly consistent during 2008, where full compliance was achieved up until the second quarter 2008, after which there was a slight decline in the compliance rate for voltage complaints not responded to within 24 hours. In comparison with 2007, there was a slight decline in performance in this regard.

The number of complaints not rectified within 15 working days was 77 for the year, an average compliance rate of 96.8%. **Table 17** shows the performance of T&TEC under this standard.

Because any occurrence of voltage abnormalities has the potential to cause considerable damage, the RIC would encourage T&TEC to further improve its performance under this standard.

Table 17 - Correction of Low/High Voltage

Item	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL (2008)	TOTAL (2007)
Number of voltage complaints received	531	702	704	592	2529	2545
Number of complaints not responded to within 24 hours (breach)	0	0	14	14	28	2
Percentage breach	0.0	0.0	2.0	2.4	1.1	0
Compliance rate	100.0	100.0	98.0	97.6	98.9	100
Number of complaints not rectified within 15 working days (breach)	28	18	14	17	77	56
Percentage breach	5.3	2.6	2.0	2.9	3.1	2
Compliance rate	94.7	97.4	98.0	97.1	96.9	98.0

SECTION 3 SUMMARY AND CONCLUSION

3.1 Summary of Performance under Guaranteed Standards

With respect to the six Guaranteed Standards, 23,885 breaches were recorded in 2008, for which T&TEC would have been required to compensate customers. The highest number of breaches was 13,271 (55.6%) for the Guaranteed Standard, GES 1, while the next highest number of breaches was 10,246 (42.9%) for GES 2. Together, these two standards accounted for 98.5% of all of the breaches. As in 2007, no claims were received under GES 5 during 2008 and hence there was no opportunity to assess T&TEC's performance under this standard. See **Table 18**.

Overall, there has been a decline in performance of T&TEC in meeting the Guaranteed Standards for the period January to December 2008 when compared with the previous year.

Table 18 - Number of Breaches under the Guaranteed Standards by Quarter (2008)

Standard		First Quarter	Second Quarter	Third Quarter	Fourth Quarter	TOTAL
GES 1 – Response and Restoration Times of Supply after unplanned outages on the distribution system		1,728	2,225	6,322	2,996	13,271
GES 2 – Billing Punctuality	Residential	2,010	1,771	3,165	3,300	10,246
	Non-residential	11	45	39	40	135
GES 3 – Reconnection after Payment of overdue amount/ agreement		3	3	0	0	6
GES 4 – Making and Keeping Appointments		23	12	6	0	41
GES 5 – Time to credit Compensatory Payment		N/A	N/A	N/A	N/A	N/A
GES 6 – Connection to supply		33	52	54	47	186
TOTAL		3,808	4,108	9,586	6,383	23,885

Table 19 below presents T&TEC's performance by looking at 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
GES 1 – Response and Restoration Times of Supply after unplanned outages on the distribution system		99.4	99.5	99.2	99.4	99.5
GES 2 – Billing Punctuality	Residential	60.1	63.4	40.1	49.7	52.8
	Non Residential	42.1	6.2	2.5	0.0	8.6
GES 3 – Reconnection after Payment of overdue amount/ agreement		99.9	99.9	100.0	100.0	99.9
GES 4 – Making and Keeping Appointments		42.5	40.0	70.0	100.0	62.8
GES 5 – Time to credit Compensatory Payment	Credit	N/A	N/A	N/A	N/A	N/A
	Complete investigation	N/A	N/A	N/A	N/A	N/A
GES 6 – Connection to supply	Service drop and meter to be installed <30m	100.0	100.0	100.0	99.8	99.95
	Provision of estimate (30 to 100m)	85.3	71.2	51.3	46.2	68.6
	Complete construction (30 to 100m)	80.9	53.8	25.6	46.2	56.8
	Provision of estimate (100 to 250m)	77.8	73.3	93.3	55.6	74.7
	Complete construction (100 to 250 m)	85.2	40.0	73.3	77.8	69.1

Based on the number of breaches, the RIC estimates that compensatory payments of approximately \$716,550 would have been due to customers had claims been made and payments approved. However, no claims were made in 2008. The low level of claims continues to be an area of concern to the RIC. It is recommended that for the efficacy of GES 5 to improve, that automatic compensatory payments must be instituted by T&TEC.

3.2 Summary of Performance under Overall Standards

With respect to the Overall Standards, there was full compliance in OES 1 (Line faults repaired within 48 hours), OES 3 (Frequency of meter testing) and OES 4 Frequency of meter reading. For the other six Overall Standards, there were breaches during the period January to December 2008. In OES 5 – System Losses, T&TEC’s performance fluctuated between poor and good. Breaches were recorded in only one category (Billing Queries) for OES 7 (Number of complaints by type). Though breaches occurred in OES 9 (Correction of low/high voltage complaints), the performance was generally good. The performances under OES 2 (Billing Punctuality), OES 6 (Response to customer queries/requests), and under OES 8 (Prior notice of planned outages) were not satisfactory. **Table 20** gives the summary of compliance rates of the performance of T&TEC under the Overall Standards for the year 2008.

Table 20- 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 (%)	TOTAL Compliance Rate (%)
OES 1 – Line faults affecting customers repaired within 48 hours		100.0	100.0	100.0	100.0	100.0
OES 2 – Billing Punctuality		90.4	77.2	0.2	11.5	41.5
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	0.0	0.0	100.0	0.0
OES 6 – Response to customer queries/requests (written)	6a	77.5	79.9	69.6	67.0	72.9
	6b	63.7	68.4	89.3	50.9	68.4
	6c	79.3	85.9	61.7	74.5	73.3
OES 7 – Number of complaints by type	Billing Queries	0.0				0.0
	Voltage Complaints	100.0				100.0
	Street lights, poles, other	100.0				100.0
OES 8 – Prior notice of planned outages		38.0	35.4	38.9	44.6	38.9
OES 9 – Correction of low/high voltage complaints	9a	100.0	100.0	98.0	97.6	98.9

	9b	94.7	97.4	98.0	97.1	96.9
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3.3 Conclusion

The performance of T&TEC has been mixed for 2008. T&TEC has showed declining performance in the following standards:

- GES 1 – Response and Restoration Times of Supply after unplanned outages on the distribution system;
- GES 2 – Billing Punctuality;
- GES 6 – Connection to supply;
- OES 2 – Billing Punctuality;
- OES 5 – Systems Losses;
- OES 6 – Response to customer queries/requests (written);
- OES 7 – Number of complaints by type- Billing queries;
- OES 8 – Prior notice of planned outages; and
- OES 9 – Correction of low/high voltage complaints.

The standards listed below have been met consistently by T&TEC with full compliance in every year:

- OES 1- Line faults affecting customers repaired within 48 hours; and
- OES 3- Frequency of meter testing.

The RIC will consider changing some of the Overall standards that are poorly complied with into Guaranteed Standards, as there are at present no real incentives to improve in these areas. The RIC may also revise the performance measures of the standards that have been met consistently to include more stringent measures. These and other issues will be taken into consideration when the standards are revised.

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	(c) 90% of industrial meters should be read every month (d) 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 January 2006 to December 2008.

Table A3 – Compliance Rates (%) for Guaranteed Standards from January 2006 to December 2008

Standard Code	2006				2007				2008			
	Jan To March	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	99.9	99.9	99.9	99.9	100.0	100.0	99.9	99.8	99.4	99.5	99.2	99.4
GES 2a	50.5	37.4	44.1	51.9	56.5	14.7	53.2	56.4	60.1	63.4	40.1	49.7
GES 2b	53.8	75.0	17.9	28.6	16.7	14.6	3.8	3.7	42.1	6.2	2.5	0.0
GES 3	99.5	99.8	100.0	99.8	99.7	99.6	98.9	99.9	99.9	99.9	100.0	100.0
GES 4	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	42.5	40.0	70.0	100.0
GES 5a	100.0	100.0	100.0	100.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GES 5b	100.0	100.0	100.0	100.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GES 6a	99.7	95.7	99.4	83.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8
GES 6b	79.3	99.0	73.2	98.0	97	97	94	81	85.3	71.2	51.3	46.2
GES 6c	83.6	89.8	67.9	94.4	89	86	65	77	80.9	53.8	25.6	46.2
GES 6d	86.5	92.0	71.4	80.6	100.0	97	80	81	77.8	0.0	93.3	55.6
GES 6e	94.6	64.0	80.0	77.8	83	60	30	13	85.2	40.0	73.3	77.8

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 January 2006 to December 2008.

Table A4 - Compliance Rates (%) for Overall Standards from January 2006 to December 2008

Standard Code	2006				2007				2008			
	Jan to March	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	100.0
OES 2	83.9	104.0	73.2	103.4	66.3	98.0	95.9	92.9	90.4	77.2	0.2	11.5
OES 3	100.0				100.0				100.0			
OES 4a	100.0				100.0				0.0			
OES 4b	100.0				100.0				100.0			
OES 5	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	00	0.0	100.0
OES 6a	47.0	89.0	87.0	84.0	81.0	91.0	87.0	95.0	77.5	79.9	69.6	67.0
OES 6b	21.0	23.0	33.0	28.0	42.0	39.0	44.0	81.0	63.7	68.4	89.3	50.9
OES 6c	9.0	31.0	16.0	19.0	17.0	34.0	51.0	56.0	79.3	85.9	61.7	74.5
OES 7a	100.0				100.0				100.0			
OES 7b	100.0				100.0				100.0			
OES 7 c	100.0				100.0				100.0			
OES 8	52.0	56.0	53.0	79.0	45	44	48	56	38.0	35.4	38.9	44.6
OES 9a	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.0	97.6
OES 9b	94	97	96	96	98	96	99	98	94.7	97.4	98.0	97.1

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 2008.

Figure A1- Compliance Rate for GES 1

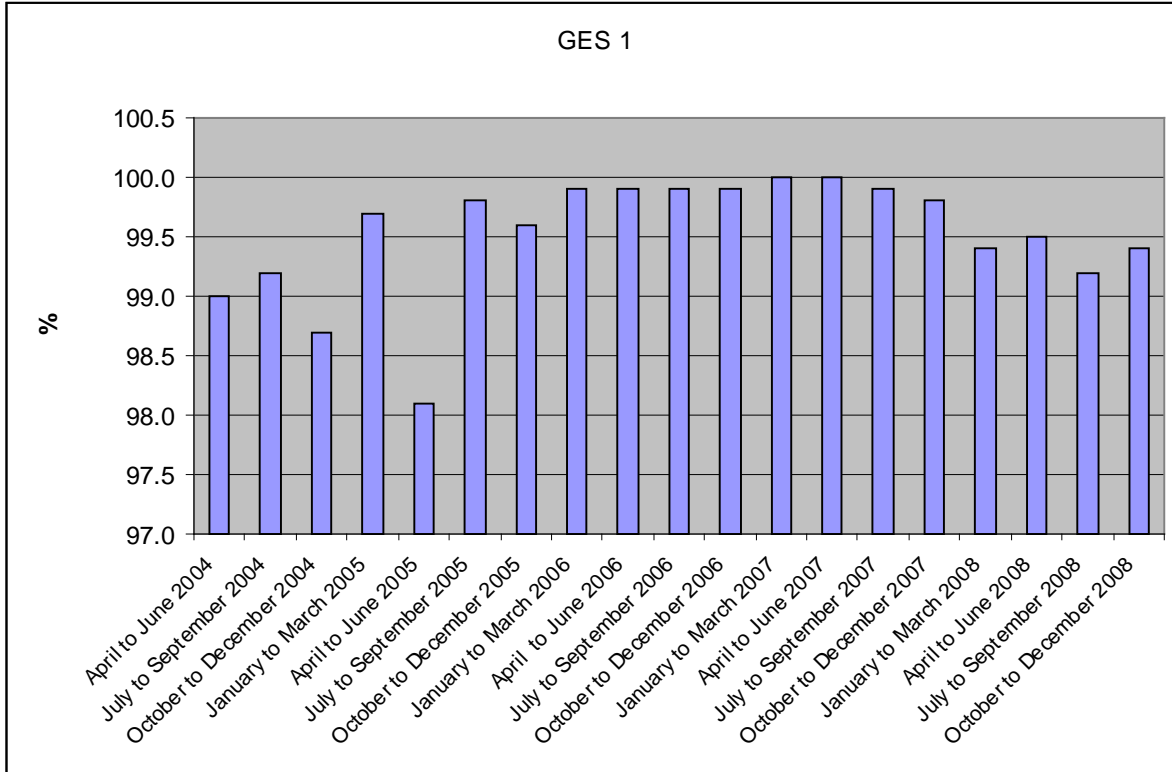


Figure A2 Compliance Rate for GES 2

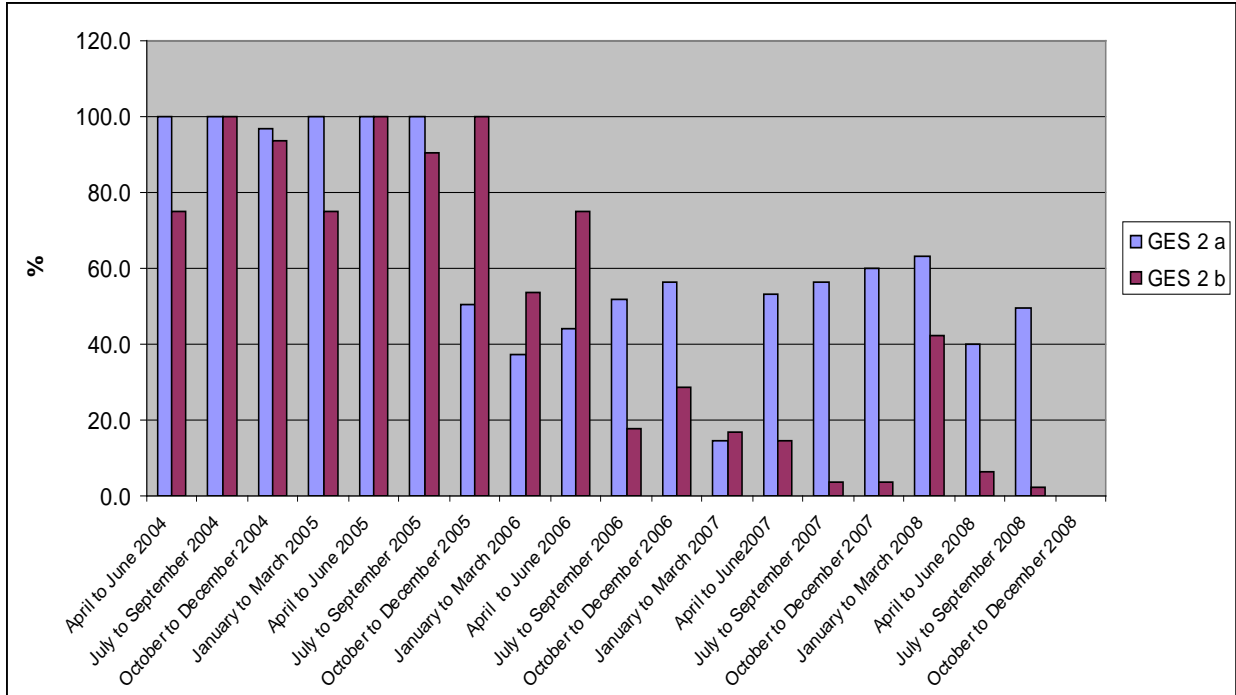


Figure A3- Compliance Rate for GES 3

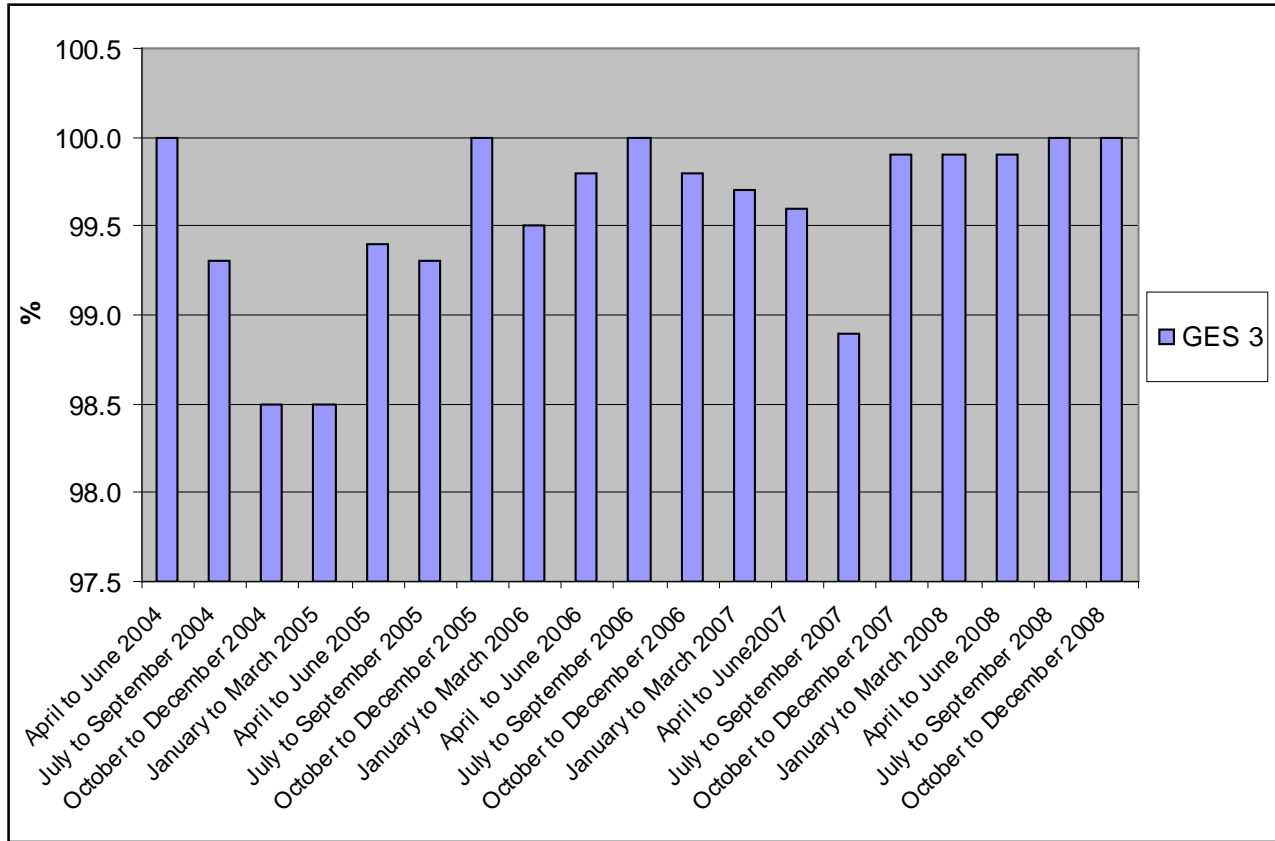


Figure A4 - Compliance Rate for GES 6

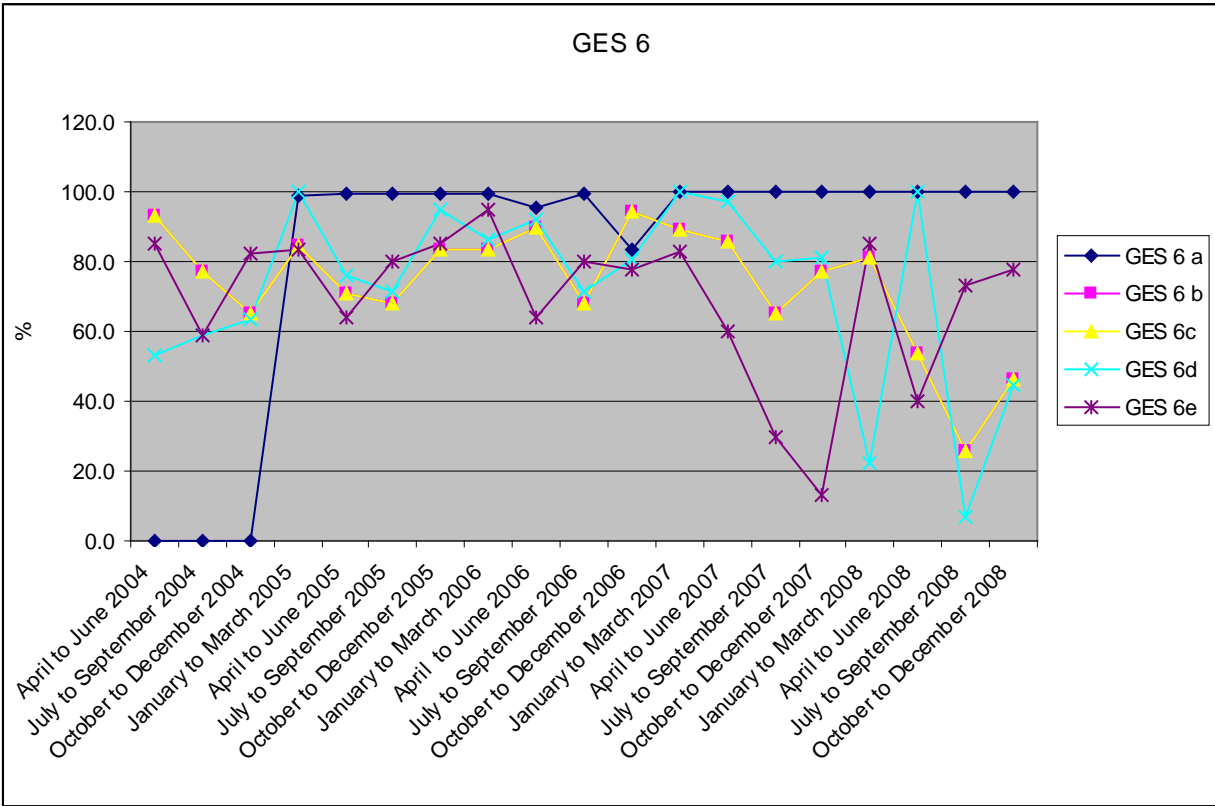


Figure A5 - Compliance Rate for OES 2

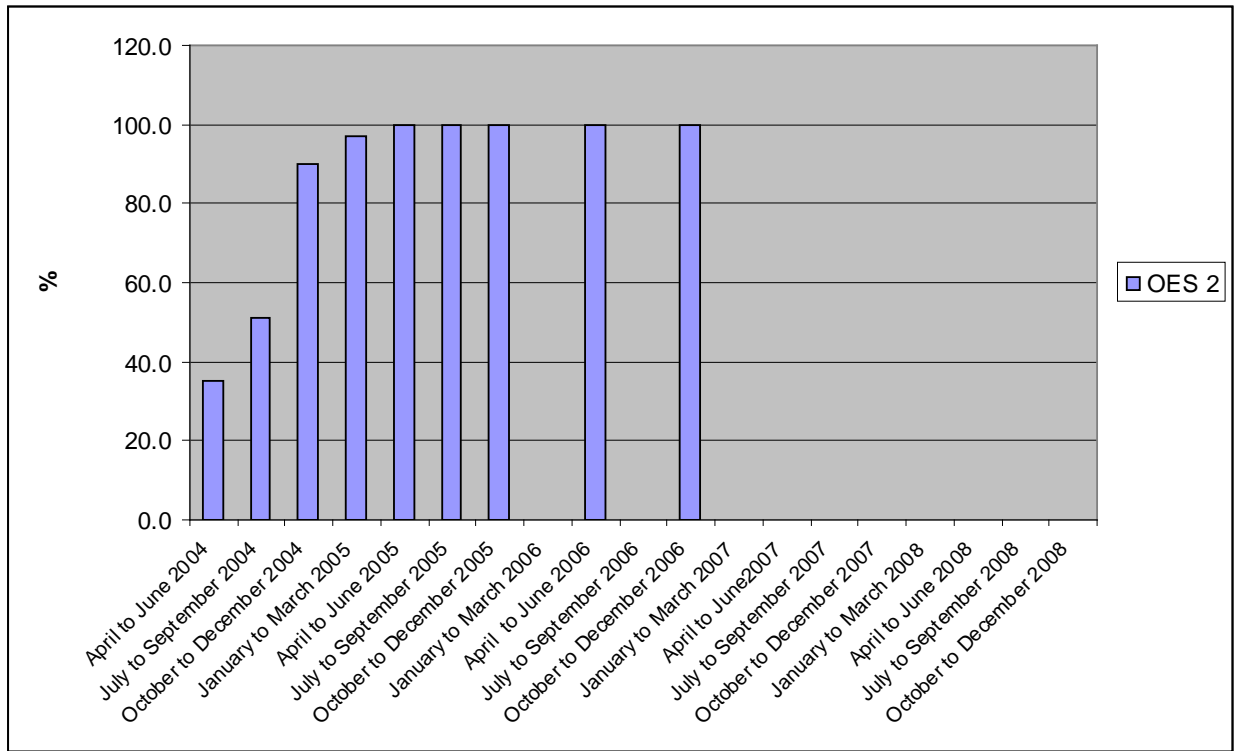


Figure A6 - Compliance Rate for OES 6

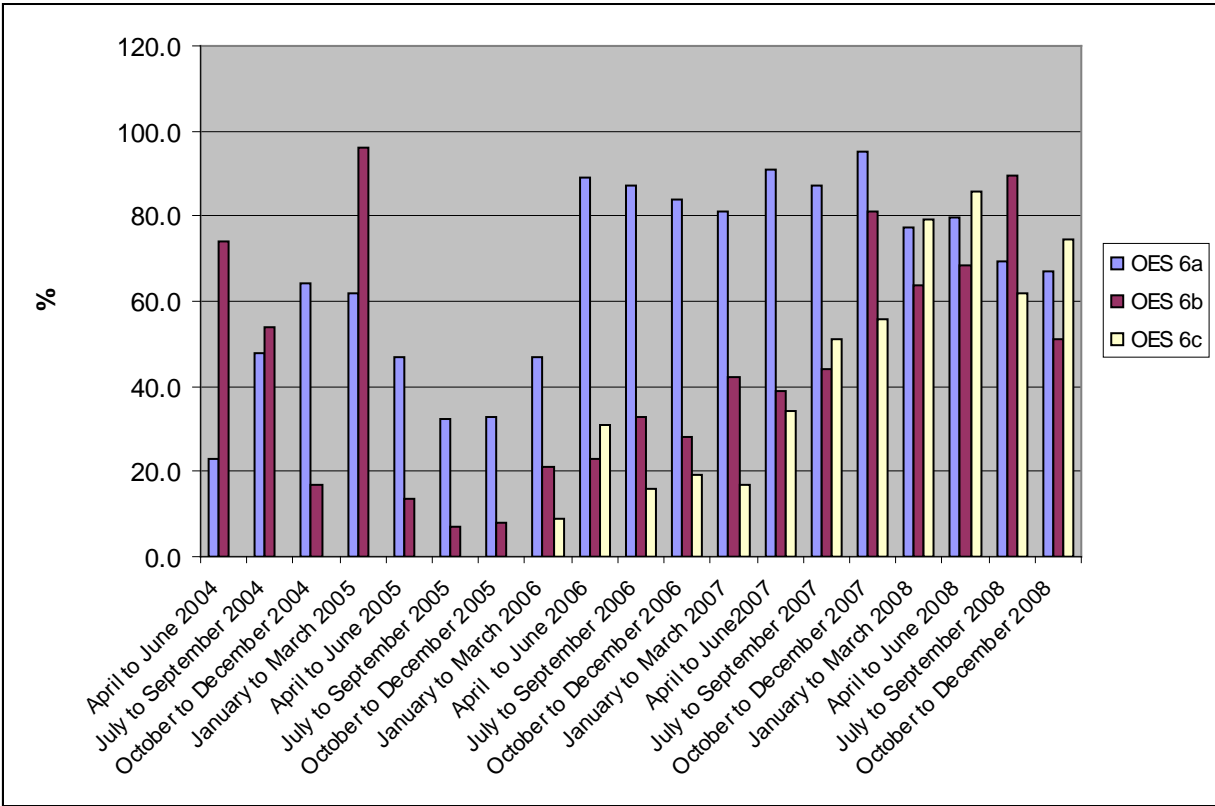


Figure A7- Compliance Rate for OES 9

