

2003/04 Electricity Distribution Quality of Service Report

November 2004

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Summary

Ofgem considers quality of service to be one of its key priorities in network regulation. Ofgem has been undertaking a programme of work to improve regulation of electricity distribution companies to ensure they deliver an appropriate level of service to customers.

This report sets out the quality of service performance in the period 1 April 2003 to 31 March 2004 for the 14 electricity distribution network operators (DNOs). 2003/04 was the second year that the DNOs faced financial incentives on their quality of service performance.

Since the introduction of the incentive scheme in April 2002 the average number of customer interruptions per 100 customers has fallen by 7 per cent and the number of customer minutes lost has reduced by 6 per cent. There has also been an improvement in the quality of telephone response since the introduction of the scheme.

Introduction

All licensees who operate transmission or distribution systems are required to report annually to Ofgem on their performance in maintaining system security, availability and quality of service. This information provides a picture of the continuity and quality of service experienced by final customers.

Ofgem has made a commitment to publish an annual report on the overall performance of all 14 Distribution Network Operators (DNOs) and this report is the third of its kind. The aim of the report is to pull together the key information on the DNOs' quality of service in a format that is easy to understand. Transmission system information is published by the three companies responsible for transmission networks in the UK, National Grid Transco, SP Transmission and Scottish & Southern.

The document contains the following sections:

Section 1 – Background to the Electricity Distribution Network Operators
Section 2 – Explanation of the Key Quality of Service Measures
Section 3 – Performance in 2003/04
Section 4 – Ongoing Work

Summary tables and additional information are contained in the appendices.

Data for 2003/04 has been adjusted to reflect audits of reporting accuracy which took place in summer 2004. This was the third year of such audits as well as audits for exceptional events. Ofgem intends to make the complex information relating to the distribution network operators as meaningful and user friendly as possible and welcomes any comments or suggestions for the format of future reports.

Publication of the Guaranteed and Overall Standards (GOSPs) is now the responsibility of energywatch.

Ofgem intends to publish the 2004/05 Quality of Service Report before the end of 2005.

Any comments on this report should be sent by the end of April 2005 to:

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Section 1 - Background on the 14 Electricity Distribution Network Operators

At privatisation, the Public Electricity Suppliers (PESs) were responsible for both the distribution and supply of electricity, taking the place of the former regional electricity boards. However, with the introduction of competition in supply, it was important to ensure that all supply businesses, both new and old, had fair access to the distribution networks.

The Utilities Act 2000 introduced separate licences for distribution and supply, and required that these be held by separate legal entities.

Distribution

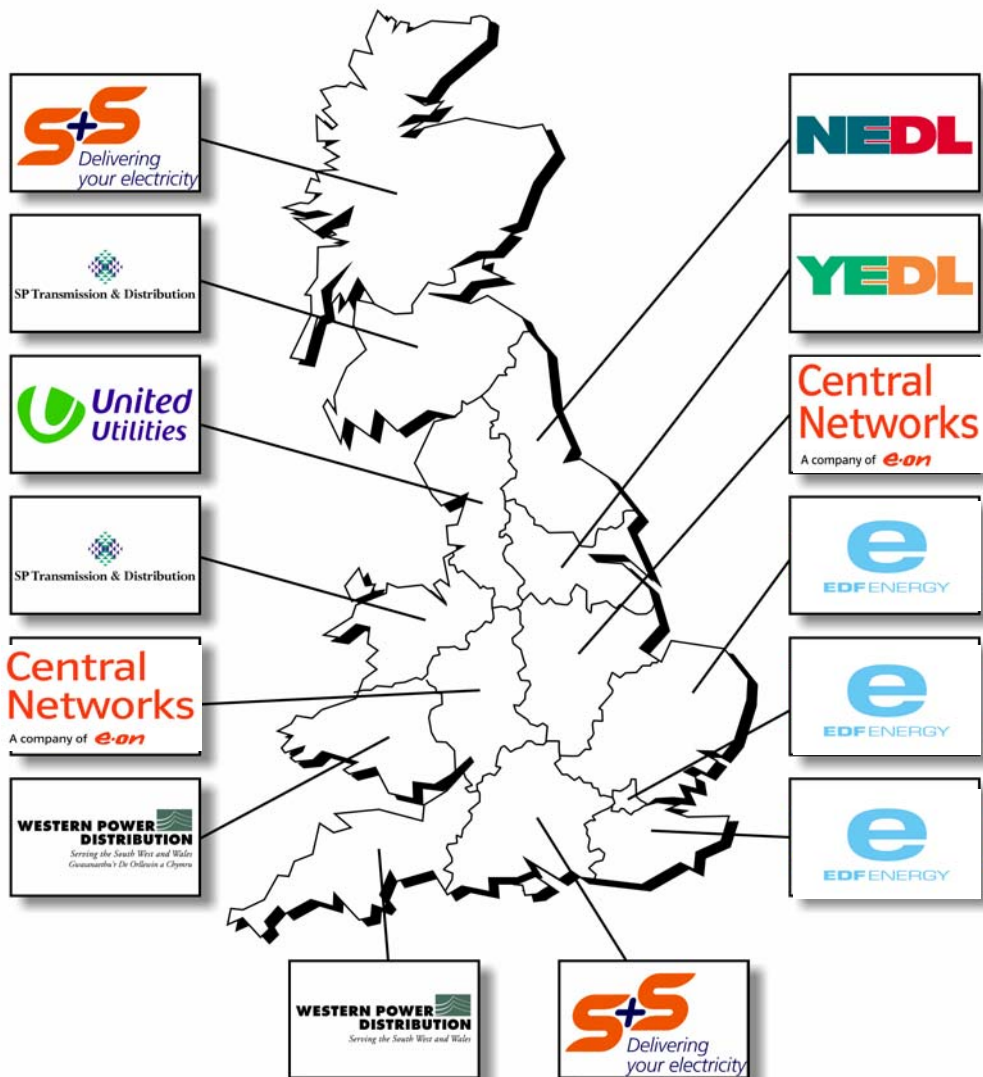
Distribution Network Operators are responsible for local distribution of electricity along overhead wires and through underground cables. This includes responsibility for ensuring that customers have a reliable electricity supply and restoring customers promptly in the event of an interruption to their electricity supply as set out in the Guaranteed and Overall Standards and the Quality of Service Incentive Scheme, which are discussed later in this document. Following privatisation and a number of corporate acquisitions, by the end of 2003/04 the 14 distribution licenses were owned by 7 separate companies (see Map).

How much does distribution cost the customer?

Electricity distribution charges account for around £3 billion annually and make up around 25 per cent of customers' electricity bills.

For a typical domestic electricity customer, based on consumption of 3300 kWh of electricity a year, the distribution element of their bill would be approximately £55.

Map of Great Britain showing the Geographical Areas of the 14 Distribution Network Operators



Name in the report	Name on Map
CN West	Central Networks
CN East	Central Networks
EDF - EPN	EDF Energy
SSE - Hydro	Scottish & Southern
EDF - LPN	EDF Energy
CE - NEDL	NEDL
SP Distribution	SP Transmission & Distribution
EDF - SPN	EDF Energy
SSE - Southern	Scottish & Southern
SP Manweb	SP Transmission & Distribution
UU	United Utilities
WPD S Wales	Western Power Distribution
WPD S West	Western Power Distribution
CE - YEDL	YEDL

Section 2 - Key Quality of Service Measures

There are two main sets of quality of service measures for the DNOs.

- Overall measures of the quality of service the DNOs provide; and
- Guaranteed and Overall Standards of Performance.

Overall Measures of Quality of Service

The quality of service incentive scheme which was introduced in April 2002 financially incentivises the DNOs with respect to the overall quality of service they deliver in the following areas:

- **the number and duration of interruptions to supply per year** – these are defined as the number of customers affected by power cuts per 100 customers per year and the average minutes without power per customer per year, only including power cuts that last 3 minutes or longer. Where several outages occur affecting the same customer as part of the same fault, this will only count as one power cut¹. DNOs are incentivised based on their annual performance against the targets for each of these measures; and
- **the quality of telephone response** – is assessed through a customer survey carried out on a monthly basis by Accent Marketing and Research. Accent survey a sample of customers who have recently called their DNO with respect to power cuts or a dangerous situation, asking for customers' views in four key areas:
 - (i) the politeness of the member of staff;
 - (ii) their willingness to help;
 - (iii) the accuracy of the information given (if information was given); and
 - (iv) the usefulness of the information given (if information was given)

Customers are asked to score the DNOs on a scale of 1-5² based on their experience of the telephone conversation they had with the DNO. The results of this sample are then aggregated to derive an overall score for each DNO, with the DNOs incentivised based on their annual score relative to the industry average³.

In addition, DNOs are required to report the following information:

- **the number of short interruptions to supply per year** – the number of customers affected by power cuts lasting less than three minutes per 100 customers per year; and
- **disaggregated information on interruptions** by source, voltage and HV circuit.

¹ Unless the second or subsequent power cuts occurred more than 3 hours after all customers in the first power cut were restored, or after 18 hours in the case of temporary restoration.

² Where 5 is equal to very satisfied and 1 equal to very dissatisfied

³ Rewards and penalties are calculated using DNOs' upper 95% confidence performance scores.

Guaranteed and Overall Standards of Performance

A summary of the standards of performance is set out in Appendix 2.

This report sets out performance on the Overall measures of quality of service and penalties/rewards under the incentive scheme. Publication of data on standards of performance is now energywatch's⁴ responsibility.

Interim arrangements

Experience from the October 2002 storms showed that GS2 (the guaranteed standard for supply restoration) could lead to a large number of disputes and long delays before customers receive compensation in relation to severe weather events. Changes were needed to strengthen the incentives that DNOs have to restore supply as quickly and efficiently as possible following severe weather events and to streamline the arrangements for paying compensation to customers.

In November 2003 Ofgem announced the introduction of new interim storms compensation arrangements for electricity customers. Under the interim arrangements, for all but the most extreme events, customers are entitled to claim £25 compensation if they are off supply for more than 48 hours plus £25 for each additional 12 hours, up to a cap of £200.

There were a number of events where DNOs invoked the interim arrangements in 2003/04 and whilst the arrangements have worked successfully, Ofgem and the industry have been working on further strengthening the arrangements for 2005/06 onwards as discussed in Section 4.

⁴ <http://www.energywatch.org.uk/>

Section 3a – Trends in GB Performance

Figure 3.1 Average Customer Interruptions (CIs) per 100 customers 2001/02 to 2003/04 with and without storms

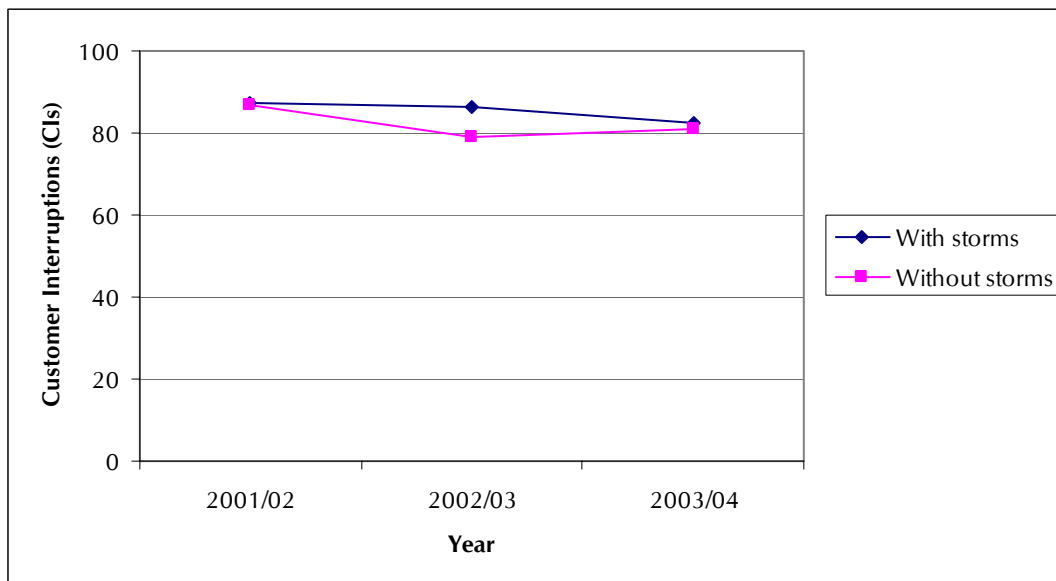
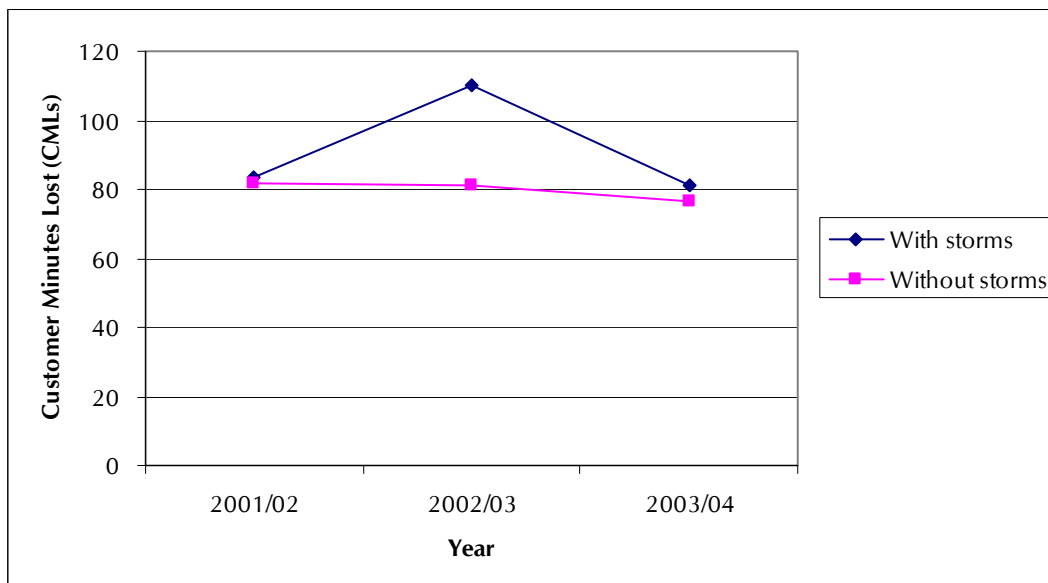


Figure 3.2 Average Customer Minutes Lost (CMLs) 2001/02 to 2003/04 with and without storms



Figures 3.1 and 3.2 show average performance for Britain's distribution networks from 2001 onwards. As part of the Information and Incentive Project, more robust definitions and consistent reporting of interruptions data was introduced from April 2001. Historically data had been significantly under-reported. There has been a significant improvement in underlying performance for both the number and duration of interruptions, although the October storms had a significant impact on the duration of interruptions in 2002/03.

Section 3b - DNOs' Performance in 2003/04

Figure 3.3 Average Customer Interruptions (CIs) per 100 customers 2003/04

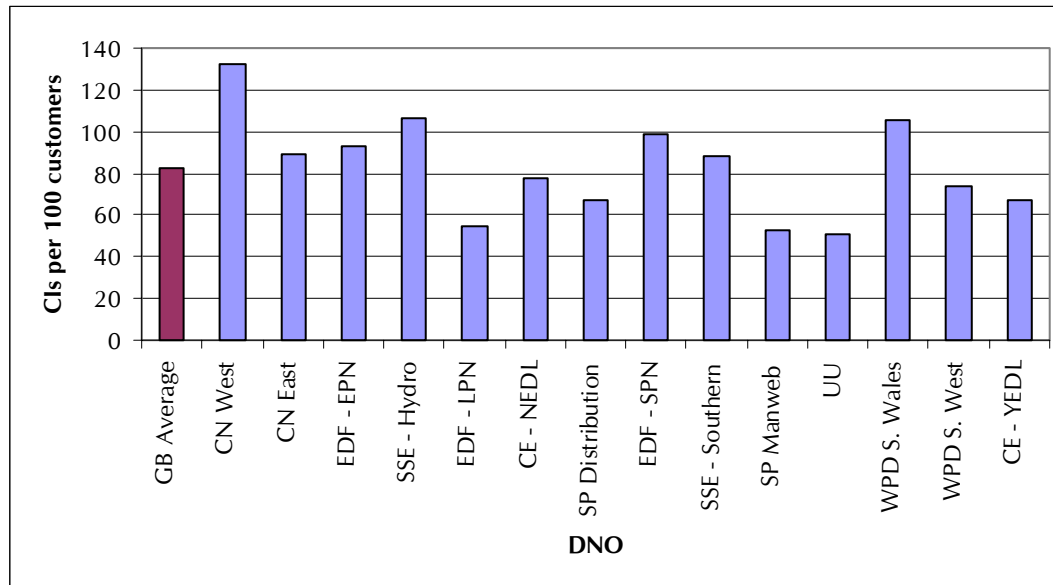


Figure 3.3 shows the average number of customer interruptions per 100 customers in 2003/04 across Great Britain was 82.6, an improvement of 3.6 from 2002/03. It also shows the performance of each DNO. The data covers all interruptions, including those caused by bad weather, faults and pre-arranged shutdowns for maintenance and construction.

Figure 3.4 Average Customer Minutes Lost (CMLs) 2003/04

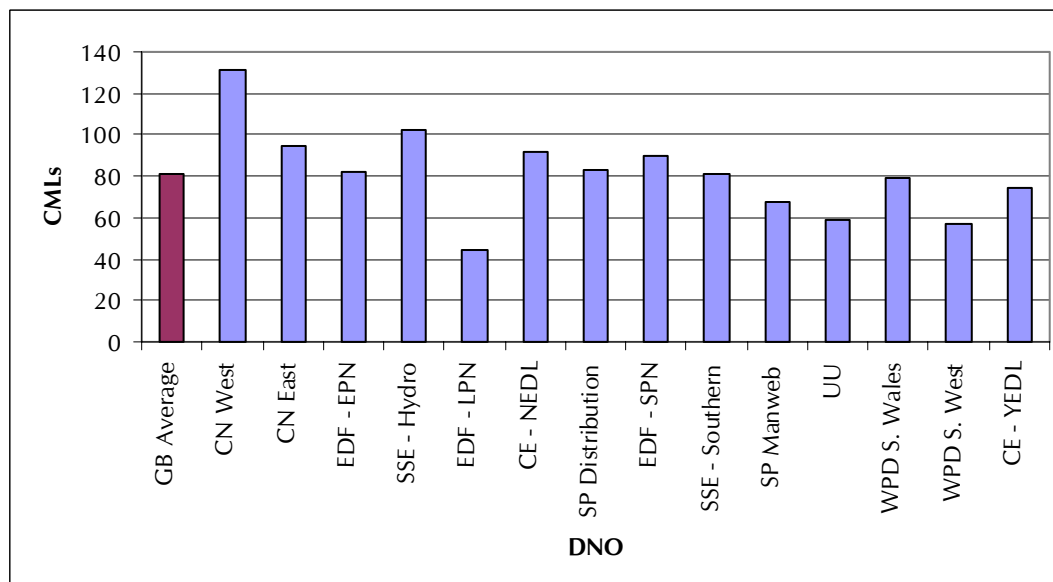


Figure 3.4 shows the average number of minutes customers were off supply in 2003/04 across Great Britain was 81.1 an improvement of 29.3 from 2003/04. It also shows the performance of each DNO. Restoration of supplies in remote areas and those with low population density can sometimes be delayed by difficult terrain and longer distances between DNO depots and customers and similarly in urban areas the time taken to reach a fault may be affected by traffic congestion. DNOs are typically tackling these issues by investing in protection, network automation and remote control.

Figure 3.5 Short Interruptions per 100 Connected Customers 2003/04

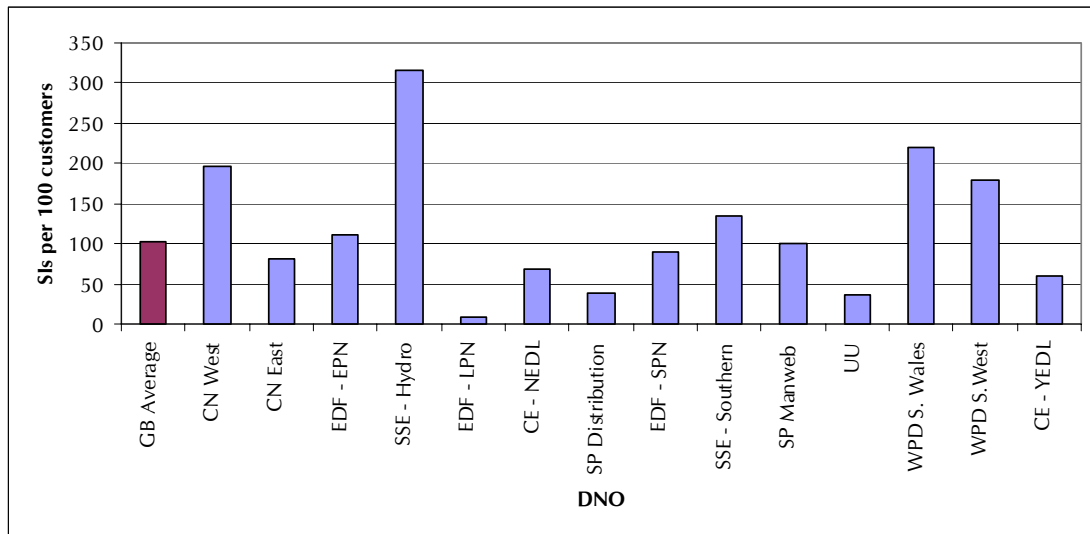


Figure 3.5 shows the average number of short interruptions per 100 connected customers across Great Britain was 102. It also shows the performance of each of the DNOs. CN West, SSE - Hydro, SSE - Southern, WPD South Wales and WPD South West all reported significantly above the GB average. CN East, EDF - LPN, CE - NEDL, SP Distribution, EDF - SPN, SP Manweb, United Utilities and CE - YEDL were all below the GB average.

Short interruptions are brought about by operations of the network designed to reduce the length of interruptions. The majority of short interruptions are associated with automatic restoration schemes, such as:

- pole mounted auto reclosers;
- ground mounted auto-reclosers;
- rural automation schemes; and
- load transfer schemes.

2003/04 Performance⁵ against Targets

Figure 3.6 Customer Interruptions – 2003/04 Performance Relative to 2003/04 Targets

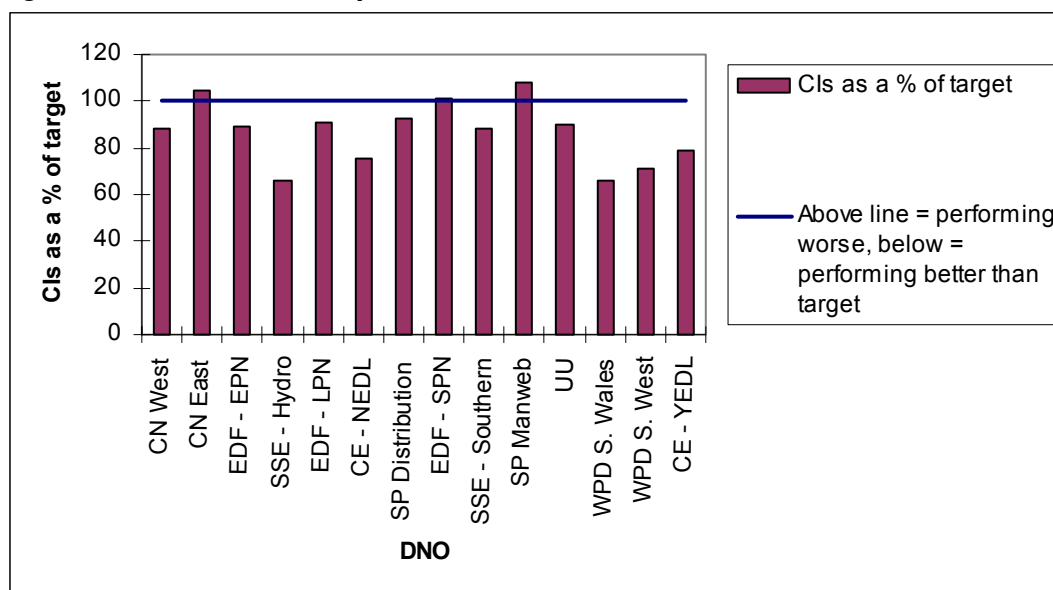
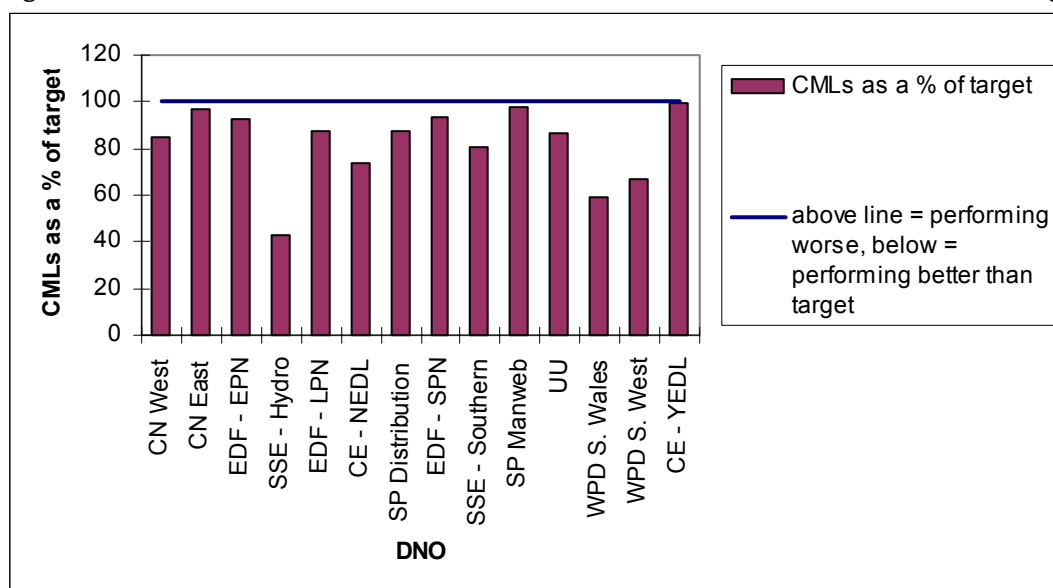


Figure 3.7 Customer Minutes Lost – 2003/04 Performance Relative to 2003/04 Targets



Figures 3.6 and 3.7 show DNOs' 2003/04 performance relative to their targets for the year. In 2003/04 most DNOs outperformed their targets.

It is important to note that comparisons against the Price Control targets are only one way of assessing performance; many of the DNOs have made substantial improvements in performance year on year.

As part of the Price Control Review, Ofgem and the DNOs are undertaking work on improving comparisons of quality of supply performance, to help ensure that robust targets are set for all DNOs as part of the next Price Control (see section on benchmarking and comparing quality of supply performance).

⁵ Incentive scheme performance, following adjustments for reporting accuracy and exceptional events.

In measuring DNOs' performance against the targets, Ofgem recognises that the number of interruptions arising on other networks are outside the DNO's control. They are therefore excluded. However, a DNO can take appropriate actions to mitigate the duration of these interruptions. 10 per cent of the duration of interruptions on other networks is therefore included in assessing performance against targets.

DNOs may also claim an adjustment for events which they believe were exceptional and had a significant impact on their performance. Ofgem will only make such an adjustment if the event is found to be exceptional. In deciding the extent of any adjustment Ofgem will take into account whether the DNO has taken all reasonable steps to restore customers in an efficient and effective manner.

2003/04 Performance against Average Benchmarks

Figure 3.8 Unplanned Customer Interruptions – 2003/04 Performance Relative to Average Benchmarks

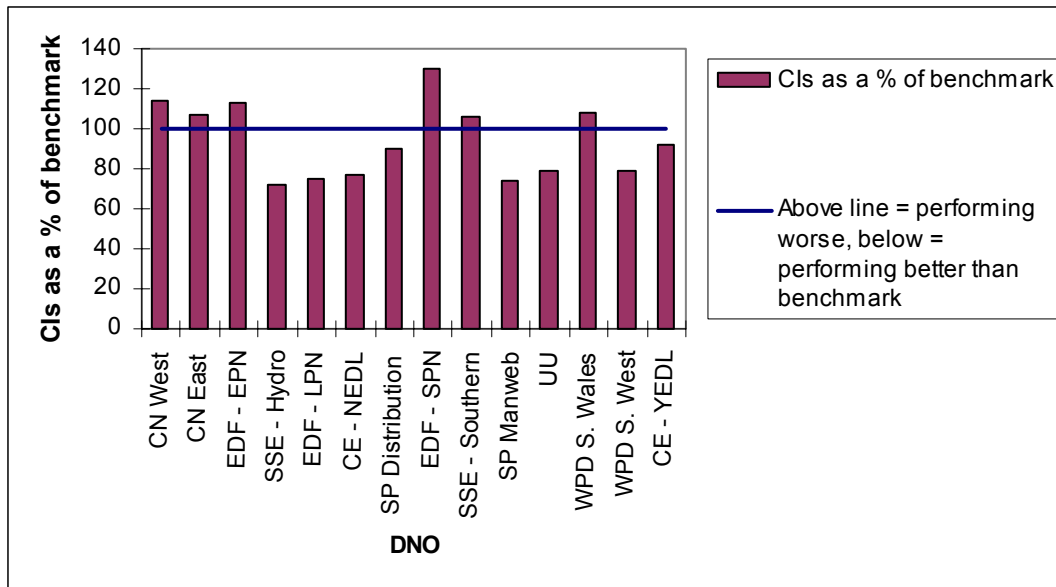
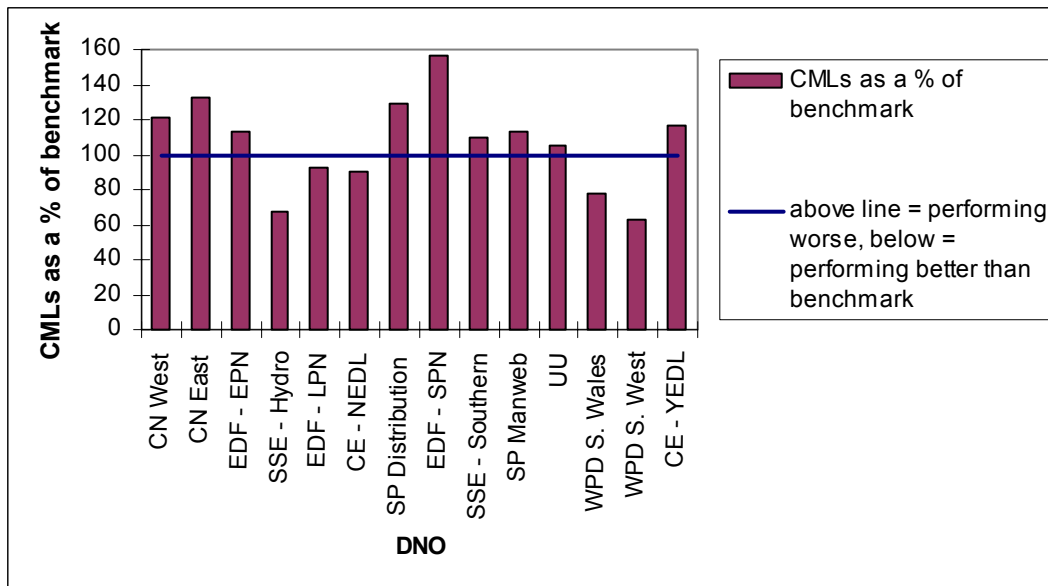


Figure 3.9 Unplanned Customer Minutes Lost – 2003/04 Performance Relative to Average Benchmarks



Although the number of unplanned power cuts per 100 customers (CIs) and the number customer minutes lost per customer (CMLs) take account of different customer numbers in each DNO, performance still varies significantly. The difference in performance can be as a result of a number of different factors such as;

- Inherited Differences - differences in the business inherited at privatisation such as network design and configuration;

- Inherent Differences - differences in the area in which the DNO operates which may include topographic factors such as length of network, customers' location and customer density etc;
- Exceptional Events - events outside the control of the DNO which can affect performance such as severe weather;
- Incurred Differences - differences that are a direct result of management decisions including the strategy taken for operating and maintaining the network

In order to take these factors into account when comparing quality of supply, Ofgem jointly with the Quality of Supply Working Group, has developed a method for calculating benchmarks for CIs and CMLs taking into account inherited and inherent differences in the DNOs' networks (and excluding exceptional events). In essence this method involves looking at physically similar parts of networks and comparing performance at a more disaggregated level.

Each DNO's performance is compared to their benchmark (actual performance divided by benchmark, expressed as a percentage). As the benchmarks are calculated based on similar groups of circuits and take into account DNOs' own customer numbers per circuit and average circuit length, this method provides a more robust basis for comparing quality of supply performance.

Care should be taken in interpreting the results as there are a range of factors that may explain the remaining performance gaps. Appendix 1 contains a more detailed explanation of the disaggregation and benchmarking process.

2003/04 Quality of Telephone Response Performance

Table 3.1 2003/04 Performance Rankings

Ranking	DNO	Score
1	SSE – Hydro	4.62
2	CE – NEDL	4.55
3	WPD S West	4.54
4	WPD S Wales	4.52
5	SSE – Southern	4.51
6	CN East	4.49
7	CE – YEDL	4.47
8	SP Manweb	4.46
9	SP Distribution	4.44
10	CN West	4.43
11	UU	4.42
12	EDF – SPN	4.38
13	EDF – EPN	4.27
14	EDF – LPN	4.19
	Industry Mean	4.39

The quality of telephone response measure is based on the combined upper mean results from a customer survey assessing performance in four key areas - (i) politeness of staff; (ii) willingness of staff to help; (iii) the accuracy of information provided; and (iv) the usefulness of the information provided.

The overall combined results for 2003/04 showed improved performance for all DNOs compared with 2002/03. This is reflected in an increased overall industry mean score of 4.39 compared to 4.25 in 2002/03, which is a statistically significant improvement. Since the introduction of the incentives in this area, overall performance scores for all DNOs indicate that customers are 'quite satisfied'⁶ with the quality of response provided.

At a more disaggregated level, the politeness of staff attribute is the highest scoring attribute, and has improved in 2003/04 compared with 2002/03 to a statistically significant degree. Further, over 40% of customers cite operators being polite and efficient as a reason for satisfaction.

The information based assessed attributes (accuracy and usefulness of information) also showed statistically significant improvements compared with performance in 2002/03. However, DNOs performed less well in these areas compared with the other assessed attributes.

⁶ Ofgem's market research consultant Accent uses a 1-5 scale for the survey where 5 = very satisfied, 4 = quite satisfied, 3 = neither satisfied nor dissatisfied, 2 = quite dissatisfied and 1 = very dissatisfied

Section 3c – DNO Summaries

This section contains a page on the performance of each of the 14 DNOs. It sets out their:

- 2001/02, 2002/03 and 2003/04 performance for the number and duration of interruptions;
- 2003/04 and 2004/05 targets;
- 2002/03 and 2003/04 quality of telephone response performance⁷;
- 2002/03 and 2003/04 rewards/penalties⁸;
- 2002/03 and 2003/04 unplanned performance against benchmarks⁹; and
- fault rates per 100km of circuits.

Note: Comparisons of the number of faults in 2001/02 and subsequent years with levels in previous years should be treated with caution due to the impact of reporting changes.

In addition each DNO has provided commentary on its 2003/04 performance.

⁷ Telephone response performance is based on a DNO's upper 95% confidence score.

⁸ There are no rewards for outperforming 2002/03 or 2003/04 CI and CML targets, only penalties if either or both are failed. There are rewards or penalties for telephony performance in 2002/03 and 2003/04.

⁹ The unplanned performance used here is based on disaggregated performance with a different treatment for exceptional events. Therefore, these figures may differ from performance reported elsewhere.

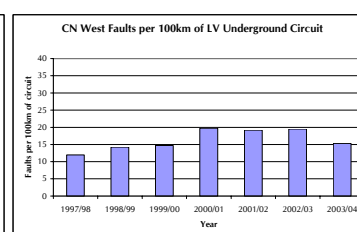
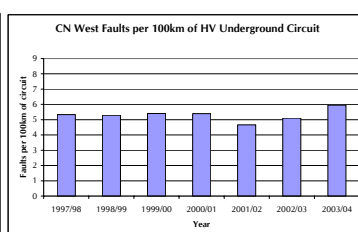
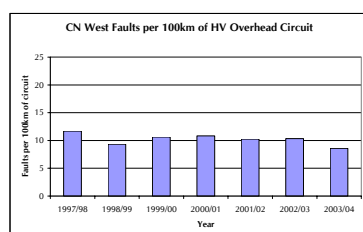
CN West – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	123.54	103.34	116.01	131.00	131.00
CML	125.87	137.94	107.09	125.87	125.87

Quality of telephone response performance		
	2002/03	2003/04
CN West's score	4.24	4.43
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0	0.05
CI	0	0
CML	-0.04	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	96.3	110.2	96.5
Unplanned CML	92.1	93.1	76.6



Commentary provided by CN West

Central Networks West has outperformed its targets by over 10% during 2003/4, demonstrating its continued focus on the maintenance of secure and reliable electricity supplies.

The company's strategy of investment in network performance improvements and application of incident response initiatives has led to improvements in both CI and CML measures since 2001/2. Correspondingly, average fault duration (CML/CI) has also improved by 10 minutes from 102 to 92 minutes.

During 2003/4 a number of exceptional events affected the company: severe gales in March 2004; and major incidents at substations in Burntwood (Staffordshire) and Nechells (Birmingham). In all cases Central Networks West activated its emergency plans effectively and minimised the impact on customers by employing efficient restoration techniques including the application of mobile generation.

Throughout the year the company continued to invest in network replacement and refurbishment programmes to reduce fault rates. These included:

- on-going replacement of less reliable 'small cross-section' lines which constitute a substantial part of the overhead network,
- the targeted replacement of 'Consac' underground cable to help prevent repeat faults on the low voltage network.

This was supported by the further installation of devices on the network that reduce the number of customers affected by faults and restore supplies more quickly by remote control command.

Central Networks will continue to invest to maintain the underlying reliability of the network, and develop operational incident response to further reduce the number and duration of interruptions and improve customer service.

Disaggregation and benchmarking

Central Networks has actively contributed to industry co-operation in the development of disaggregated analysis that allows performance comparison at a much more detailed level. Whilst this information has been used to determine performance benchmarks, further work is required to fully understand performance differences, which the company will continue to support.

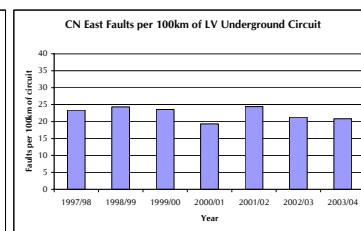
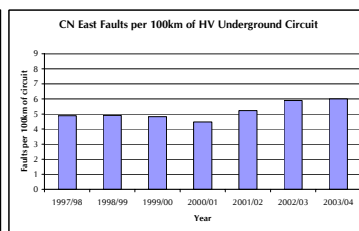
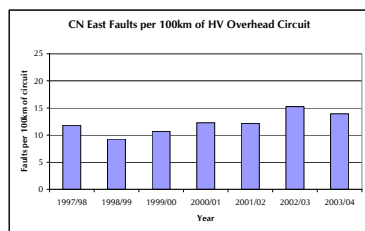
CN East – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	78.82	75.97	85.32	81.30	81.30
CML	92.73	83.09	89.50	92.73	92.73

Quality of telephone response performance		
	2002/03	2003/04
CN East's score	4.35	4.49
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.08	0.14
CI	0	-0.39
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	73.4	81.5	76.1
Unplanned CML	75.3	80.1	60.4



Commentary provided by CN East

Central Networks East continued to perform well during 2003/4 with the electricity network being available for 99.98% of the time, but its performance measures have been adversely affected by a number of lightning and wind storms.

Whilst CML performance has improved since 2001/2, the CI measure has increased, resulting in the company exceeding the Interruptions target by 4 CIs.

The company has adopted enhanced operational response techniques leading to an improvement in average fault duration (CML/CI) of 13 minutes from 117 in 2001/2 to 104 minutes in 2003/4.

During the year only one of the storms that affected Central Networks East was classed as exceptional and excluded from the performance results. The remainder of the lightning and wind events caused widespread disruption, but these did not meet the exclusion threshold.

The regulatory capital allowance for Central Networks East is expected to increase substantially for the DPCR4 period, and the company will therefore seek to maintain the underlying reliability of the network, and develop operational incident response to further reduce the number and duration of interruptions and improve customer service.

Disaggregation and benchmarking

Central Networks has actively contributed to industry co-operation in the development of disaggregated analysis that allows performance comparison at a much more detailed level. Whilst this information has been used to determine performance benchmarks, further work is required to fully understand performance differences, which the company will continue to support.

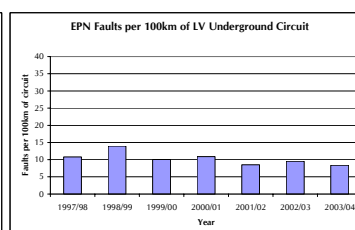
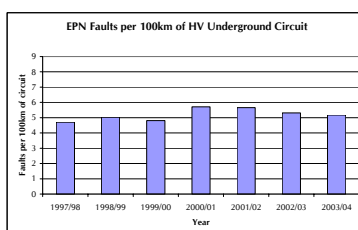
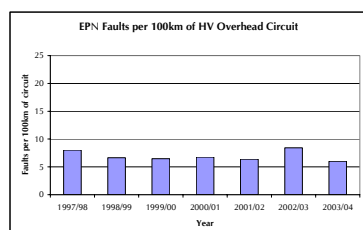
EDF - EPN – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	102.02	89.40	90.68	102.02	102.02
CML	80.21	101.62	76.51	82.31	82.31

Quality of telephone response performance		
	2002/03	2003/04
EDF - EPN's score	4.10	4.27
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	-0.15	-0.22
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	83.7	88.5	78.4
Unplanned CML	71.7	70.3	61.9



Commentary provided by EDF - EPN

We are pleased to report that customers in the EDF Energy Networks (EPN) Plc distribution area continue to enjoy year on year improvements in their quality of supply. With our reported IIP performance for 2003/04 being 90.67 Interruption per 100 connected customers and 76.51 Customer minutes lost.

These improvements can be attributed to our highly successful high voltage (HV) remote control programme which has enabled us to introduce automated sequence switching logic. This is already starting to yield benefits, with supplies being restored within three minutes where automation has been commissioned. This will lead to a high percentage of customers affected by HV faults only experiencing short interruption of less than three minutes. We believe that our customers will find this a significant improvement.

In 2004 we will continue to commission automation on our HV network resulting in customer continuing to experience improvements in their quality of supply in the 2004/05 IIP reporting year.

Disaggregation

EDF Energy is fully supportive of the disaggregation process and believes it has gone a long way to explaining the differences in performance between High Voltage (HV) circuits with differing network characteristics. While this is only the second year this measure has been reported, it has been a very transparent process and identifying the differences in performance between DNO's for the different circuit types and voltage levels. In the development of the process between Ofgem and the DNO it was identified that there are some differences between DNO's in the interpretation of an HV circuit, therefore, going forward this area needs further investigation.

While EDF Energy are fully supportive of the disaggregation process we do have some concerns that there are a number of other influences that can affect network performance which have not been taken into account and, therefore, through the future development of the process we would support further research in this area.

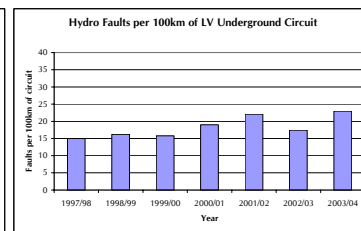
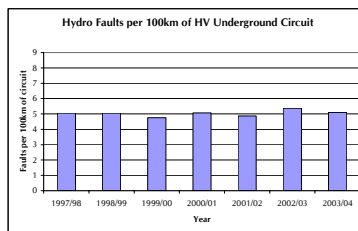
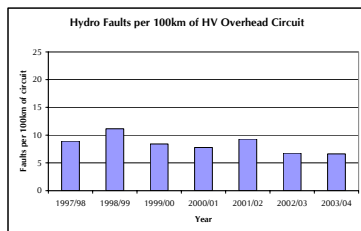
SSE - Hydro – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	119.87	94.56	89.07	135.10	135.10
CML	142.10	87.22	84.14	195.80	195.80

Quality of telephone response performance		
	2002/03	2003/04
SSE - Hydro's score	4.57	4.62
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.16	0.20
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	83.3	77.1	106.7
Unplanned CML	71.3	66.0	98.2



Commentary provided by SSE - Hydro

Scottish Hydro-Electric Power Distribution [SHEPD] delivers electricity supplies to customers in the north of Scotland, including the Western and Northern Isles, a territory which covers 25% of the UK land mass.

Network Performance

The system performance for SHEPD in 2003/4 was yet again the best ever with reductions in both the number of interruptions and the duration of those interruptions. This performance has been achieved through three main factors: effective operating procedures, system investment, and reasonably benign weather.

The weather in 2003/4 was generally less severe than that experienced in past years. However, a major wind, snow and ice storm struck our territory on 31 December, disconnecting almost 40,000 customers. Winds up to 94mph were reported and temperatures dropped to almost -10 °C. Our emergency plans were implemented two days before the storm, and we were well prepared to deal with the high levels of network damage, even though it was Hogmanay. Ofgem's appointed examiner concluded that we had taken all reasonably practicable steps to safeguard our overhead line network and we did all we could in response to the event.

Disaggregation and Benchmarking

The disaggregation and benchmarking processes have enabled us to identify and compare parts of our network which perform better or worse than similar networks across the nation. Overall, our network and our supply restoration teams are performing very well.

Investment

We invested £40M during 2003/4 on our network, bringing the total over this price review period to £137M. In the year we refurbished 2,500 km of our overhead line network and continued to install system automation. These actions improve general network resilience, reduce the number of customers affected by faults, and also reduce the duration of supply loss.

Quality of Telephone Response

We are proud that 'Hydro' has maintained first place for another year in quality of telephone response surveys. The overall standard across the nation has increased and considerable effort has been made by our teams to deliver the highest level of customer service.

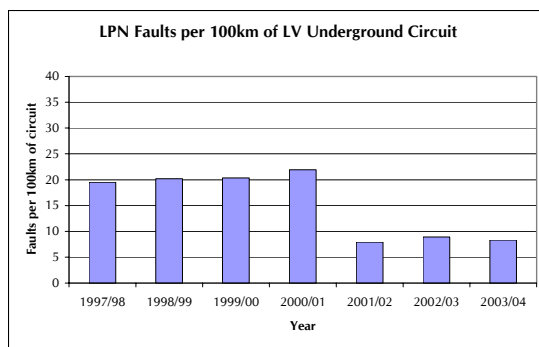
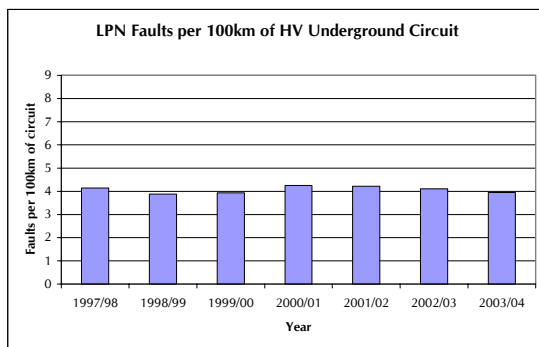
EDF - LPN – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	38.62	36.44	35.25	38.62	38.62
CML	42.28	43.17	39.49	45.03	45.03

Quality of telephone response performance		
	2002/03	2003/04
EDF - LPN's score	3.95	4.19
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	-0.23	-0.28
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	35.2	34.1	45.2
Unplanned CML	40.2	36.3	39.2



Commentary provided by EDF - LPN

Customers in the EDF Energy Networks (LPN) Plc distribution area continue to enjoy the most secure electricity supply in the country. We are pleased to report that network performance continued to improve in 2003/04. With our reported IIP performance for 2003/04 being 35.25 Interruption per 100 connected customers and 38.95 Customer minutes lost.

This continuing improvement in performance can be attributed to our highly successful high voltage (HV) automation programme. With most customers affected by HV fault having their supplies restored within three minutes through automated sequence switching logic.

Going forward it is clear that 132kV and EHV network performance can adversely affect year on year performance when related to the low targets set for LPN.

Therefore, LPN intended to continue to improve the performance of HV automation and reduce the impact of 132kV and EHV incidents. This will be carried out in conjunction with programmes of work that are being developed to improve low voltage performance.

Disaggregation

EDF Energy is fully supportive of the disaggregation process and believes it has gone a long way to explaining the differences in performance between High Voltage (HV) circuits with differing network characteristics. While this is only the second year this measure has been reported, it has been a very transparent process and identifying the differences in performance between DNO's for the different circuit types and voltage levels. In the development of the process between Ofgem and the DNO it was identified that there are some differences between DNO's in the interpretation of an HV circuit, therefore, going forward this area needs further investigation.

While EDF Energy are fully supportive of the disaggregation process we do have some concerns that there are a number of other influences that can affect network performance which have not been taken into account and, therefore, through the future development of the process we would support further research in this area.

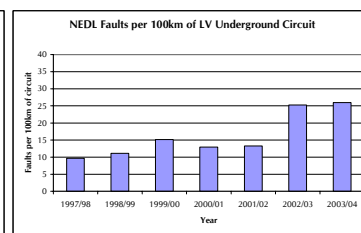
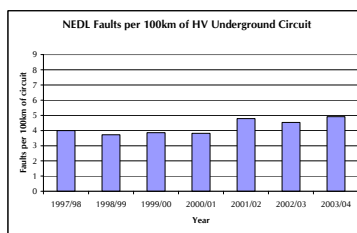
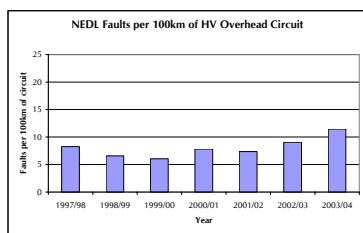
CE - NEDL – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	83.84	79.04	67.50	89.70	89.70
CML	88.05	72.89	71.19	96.54	96.54

Quality of telephone response performance		
	2002/03	2003/04
CE - NEDL's score	4.51	4.55
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.13	0.14
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	73.9	62.3	80.6
Unplanned CML	62.2	60.2	66.4



Commentary provided by CE - NEDL

The NEDL network continues to perform very well with continued improvements in both IIP-corrected CI and CML in 2003/4. The low level of interruptions (CI) relative to the targets set by Ofgem is particularly gratifying as it shows the results of the company's investment to reduce the number of customers experiencing a loss of supply.

However, Ofgem has started to place an increasing emphasis on restoration time (CML) and the company will be modifying its policies on improvements to reflect this emphasis. This change of direction will not impact the 2004/5 CML performance but we expect to see its effects by 2005/6.

Recent changes in both the way interruptions are reported and in how circuit lengths are determined have distorted the trend data shown in the three fault-rate graphs. Once corrected for these factors and for extreme storms, the underlying fault rates on HV overhead circuits show a slight improvement. Increased economic activity in the area has resulted in an increase in third party damage to underground cables. This has impacted HV underground performance. LV underground performance continues to be relatively stable.

NEDL has put a great deal of effort into improving both the speed and usefulness of the information that it provides to customers through its call centre. This is reflected in the excellent figures on telephony performance. NEDL aims to maintain this performance going forward.

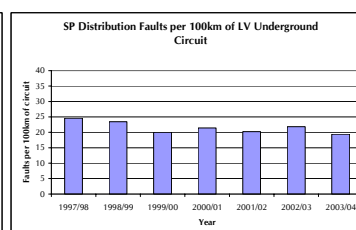
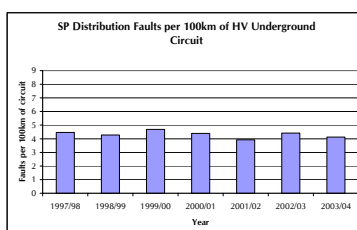
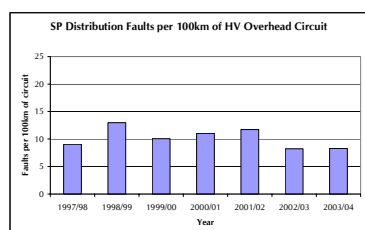
SP Distribution – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	59.93	64.99	61.59	66.40	66.40
CML	63.75	74.13	76.40	87.70	87.70

Quality of telephone response performance		
	2002/03	2003/04
SP Distribution's score	4.31	4.44
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.05	0.07
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	61.7	58.9	65.2
Unplanned CML	66.3	69.9	53.9



Commentary provided by SP Distribution

SP Distribution Ltd, part of the ScottishPower Group, owns the distribution network which supplies electricity to over 1,960,000 customers in Southern Scotland. The area comprises contrasting environments from the heavily populated areas of the Clyde and Forth valley to the exposed, sparsely populated areas of the Borders and Dumfries and Galloway.

We experienced one exceptional event during the year, when an unusually severe lightning storm swept across Southern Scotland on 30th May 2003 and disrupted supplies to over 40,000 customers. We were well prepared, and tracked the storm as it approached and passed across our network. Our emergency plans were effective and our repair teams restored over 99.5% of our customers within the first 12 hours of the event. Despite the impact of this event, we are pleased to report that this year's network performance was better than our regulatory targets.

During 2003/04 we continued to invest in our network. Over the year we spent over £91m on improvements to our overhead lines, underground cables and plant. We continued with programmes to refurbish overhead line networks and replace ageing plant and cables on our underground networks. This targeted investment aims to reduce the number of faults experienced by our customers. Additionally, we continued with our investment programme to upgrade our network with automation and remotely control facilities. These facilities help to minimise the disruption resulting from faults when they happen, and to reduce the length of time customers remain without supply.

SP Distribution Ltd is committed to providing high levels of customer service, and we are pleased that our quality of telephone response performance for 2003/04 showed an improvement on the previous year.

We believe that the disaggregation and benchmarking process has helped to better inform network performance target setting, and we continue to support its further development. It is hoped that industry benchmarking will allow electricity distribution companies to share 'best practise', and we intend to play an active part so that we can identify ways of further improving the quality of supply to our customers.

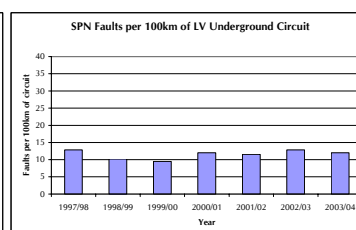
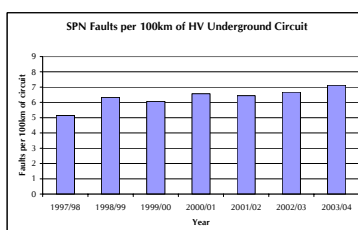
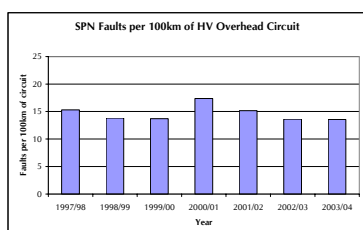
EDF - SPN – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	93.29	90.42	97.77	96.80	96.80
CML	96.65	81.25	90.04	96.65	96.65

Quality of telephone response performance		
	2002/03	2003/04
EDF - SPN's score	4.22	4.38
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	-0.02	0
CI	0	-0.05
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	86.5	94.5	72.8
Unplanned CML	73.6	83.4	53.3



Commentary provided by EDF - SPN

We are pleased to report that customers in the EDF Energy Networks (SPN) Plc distribution area continue to enjoy an underlying improvement in their quality of supply with our reported IIP performance for 2003/04 being 97.70 interruptions per 100 connected customers (CI) and 90.01 customer minutes lost (CML).

Our reported performance shows that we achieved the customer minutes lost target and were only 0.9 CI away from our customer interruption target. Our CI performance can be attributed to an above average 132kV/EHV performance and in particular two or three 132kV/EHV faults towards the end of the year.

In 2004 we continued our programme of high voltage (HV) and low voltage (LV) network refurbishment. These programmes included the replacement of open wire LV overhead line with insulated conductor and the use of HV covered conductor in problem areas on the HV network.

Our 33kV automation programme is now complete and is benefiting customers by automatically restoring supplies within 180 seconds of a 33kV fault.

We are learning from the experience gained on EDF Energy's LPN and EPN networks with the application of HV automation, which restores supplies to customer within three minutes of a HV fault through the application of automated sequence switching logic. A programme is being developed to apply the same technology to SPN's already highly successful remote control programme and is due to start late in 2004.

Disaggregation

EDF Energy is fully supportive of the disaggregation process and believes it has gone a long way to explaining the differences in performance between High Voltage (HV) circuits with differing network characteristics. While this is only the second year this measure has been reported, it has been a very transparent process and identifying the differences in performance between DNO's for the different circuit types and voltage levels. In the development of the process between Ofgem and the DNO it was identified that there are some differences between DNO's in the interpretation of an HV circuit, therefore, going forward this area needs further investigation.

While EDF Energy are fully supportive of the disaggregation process we do have some concerns that there are a number of other influences that can affect network performance which have not been taken into account and, therefore, through the future development of the process we would support further research in this area.

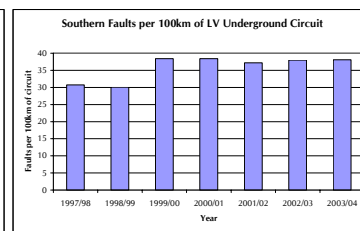
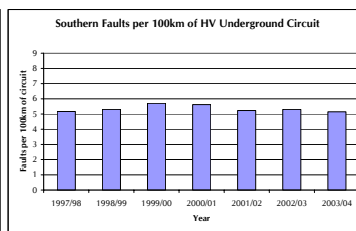
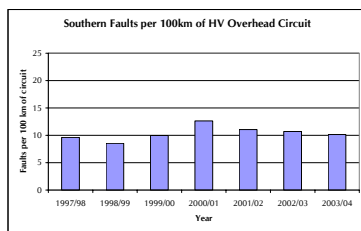
SSE - Southern – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	99.75	93.23	88.01	99.75	99.75
CML	89.70	83.00	81.05	100.58	100.58

Quality of telephone response performance		
	2002/03	2003/04
SSE - Southern's score	4.43	4.51
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.17	0.20
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	89.7	84.1	79.4
Unplanned CML	74.5	71.4	64.9



Commentary provided by SSE - Southern

Southern Electric Power Distribution [SEPD] delivers electricity supplies to customers in central southern England, ranging from remote rural communities to dense conurbations in West London.

Network Performance

The system performance for SEPD in 2003/4 improved on the previous year with reductions in both the number of interruptions and the duration of those interruptions. This performance has been achieved through three main factors: effective operating procedures, system investment, and reasonably benign weather.

Two inherited network issues particularly challenge SEPD's performance:

- the topography of our high voltage network interrupts more customers per fault than the national average; and
- the 19% of our low voltage network which is 'consac' construction, produces 52% of our low voltage faults.

The high voltage issue is being tackled mainly using automation technology, however the cost to replace the consac network is prohibitive and remains a significant challenge.

Disaggregation and Benchmarking

The disaggregation and benchmarking processes have enabled us to identify and compare parts of our network which perform better or worse than similar networks across the nation. Overall, our network and our supply restoration teams are performing very well.

Investment

During 2003/4 we continued to significantly invest in our network, spending £102M on improvements to our overhead lines, underground cables and plant. During the current price review we have now invested £387M which continues to show benefit in reducing customer minutes lost and improving our overall network resilience. We refurbished another 1,700km of overhead lines during the year and continued to increase our use of covered conductor on both HV and LV Circuits (BLX and ABC). A high proportion of our network now has the benefit of remotely controlled circuit breakers and switches, which enable blocks of customers to be restored more quickly, although these programmes now suffer from diminishing returns.

Quality of Telephone Response

We are proud that 'Southern' has improved its score in quality of telephone response surveys. The overall standard across the nation has increased and considerable effort has been made by our teams to deliver the highest level of customer service.

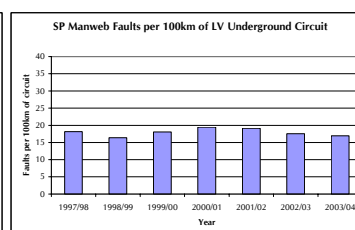
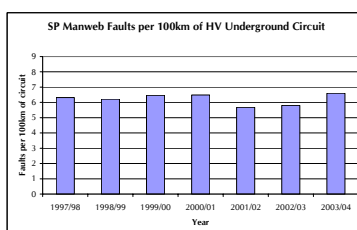
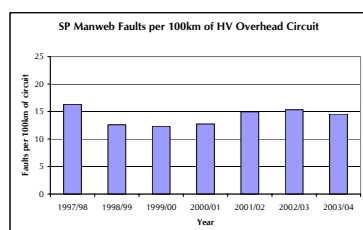
SP Manweb – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	47.06	42.55	50.97	47.20	47.20
CML	52.51	56.39	64.31	65.80	65.80

Quality of telephone response performance		
	2002/03	2003/04
SP Manweb's score	4.31	4.46
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.03	0.06
CI	0	-0.44
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	39.4	47.5	63.8
Unplanned CML	45.8	57.6	50.7



Commentary provided by SP Manweb

SP Manweb plc, part of the ScottishPower Group, owns the distribution network which supplies electricity to over 1,460,000 customers in the Merseyside, north and mid Wales and parts of Cheshire, Shropshire and Staffordshire. The area comprises contrasting environments from the heavily populated area of Merseyside to the exposed, sparsely populated areas of Wales.

We experienced one exceptional event during the year, when severe gales swept across the network area on 20th March 2004. The storm caused widespread disruption to the supplies of over 24,000 of our customers in mid-Wales, Shropshire and Cheshire. Our emergency plans were effective and, despite the high winds and thunderstorms, our repair teams restored supplies to over 96.0% of our customers within the first 12 hours of the event. Although we failed to meet our regulatory target for the number of interruptions to customers during 2003/04, as our performance against the two-year industry benchmark shows, our network continued to provide one of the most reliable electricity supplies in the UK.

During 2003/04 we continued to invest in our network. Over the year we spent over £80m on improvements to our overhead lines, underground cables and plant. We continued with programmes to refurbish overhead line networks and replace ageing plant and cables on our underground networks. This targeted investment aims to reduce the number of faults experienced by our customers. Additionally, we continued with our investment programme to upgrade our network with automation and remotely control facilities. These facilities help to minimise the disruption resulting from faults when they happen, and to reduce the length of time customers remain without supply.

SP Manweb plc is committed to providing high levels of customer service, and we are pleased that our quality of telephone response performance for 2003/04 showed an improvement on the previous year.

We believe that the disaggregation and benchmarking process has helped to better inform network performance target setting, and we continue to support its further development. It is hoped that industry benchmarking will allow electricity distribution companies to share 'best practise', and we intend to play an active part so that we can identify ways of further improving the quality of supply to our customers.

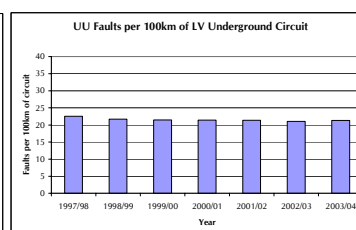
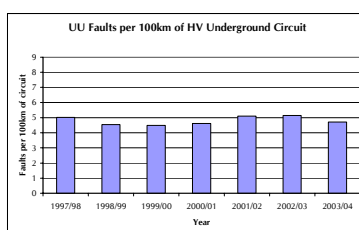
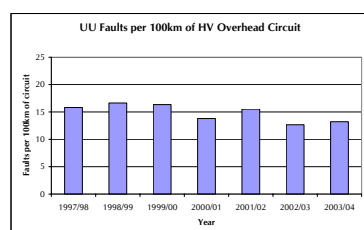
United Utilities – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	56.45	66.48	50.97	56.45	56.45
CML	64.41	67.71	59.30	68.20	68.20

Quality of telephone response performance		
	2002/03	2003/04
United Utilities' score	4.26	4.42
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0	0.03
CI	-0.53	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	64.9	49.7	63.0
Unplanned CML	63.4	55.6	52.6



Commentary provided by United Utilities

IIP, CMLs and CIs

United Utilities (UU) aims to deliver customer service and network performance beyond the minimum levels set by Ofgem. UU aims to ensure our customers receive a high quality service at a reasonable cost. UU's performance in 2003/2004 shows a return to the previous trend of steady improvement in customer service and out-performance of service targets set by Ofgem. UU continued to invest in customer service improvements throughout 2003/4 and these investments have continued in the current year.

Telephone Response

A number of initiatives for improving the quality and speed of response to customer enquiries have been implemented during this period. Whilst focusing solely on the quality of our customer contact, these initiatives were managed by a team representing all areas of the business recognised as having an impact on the end-to-end customer experience. Specific areas targeted included greater accuracy of information regarding fault restoration times and the provision of more useful information in response to general enquiries. The resulting performance improvements are reflected in the customer surveys as carried out by Ofgem.

Disaggregation and Benchmarking

Our views of the disaggregation process are similar to last year. No account is taken of the causes of other differences in performance. Examples of these in UU's networks are the comparatively large networks operating at 6.6kV and the extensive use of Consac cable. 6.6kV networks tend to have shorter circuits connecting lower numbers of customers. The disaggregation process compares those HV circuits only with circuits with similar lengths and customer numbers. However, the disaggregation process takes no account of the comparatively poor performance of Consac cable. These and other differences in characteristics account for the differences between the actual and disaggregated performance figures. It is still important to refer to the absolute service provided to each customer across the industry measured by absolute CI and CML per customer.

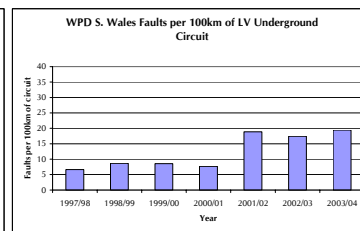
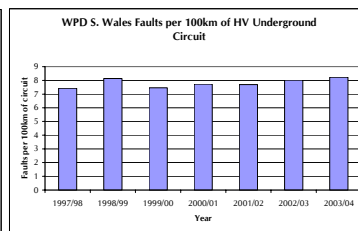
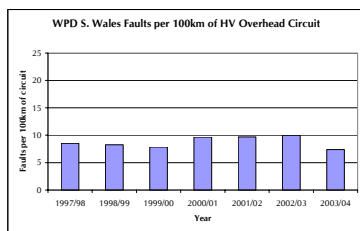
WPD South Wales – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	120.65	105.30	101.06	152.80	152.80
CML	91.75	87.65	76.42	129.20	129.20

Quality of telephone response performance		
	2002/03	2003/04
WPD South Wales' score	4.37	4.52
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.05	0.09
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	86.7	88.4	81.7
Unplanned CML	51.3	50.8	65.4



Commentary provided by WPD South Wales

In the four years that WPD has had ownership of the electricity network in South Wales, customer minutes lost have improved overall by 47% and customer interruptions by 51%

WPD South Wales have achieved an excellent performance in 2003/04 and our network performed better than the IIP targets set by Ofgem for the year by a significant margin. In addition Ofgem's auditors have confirmed that that our incident reporting achieved the level of accuracy required by Ofgem

This performance has been predominantly due to three main factors:

- Effective operating procedures such as Target 60 which aims to restore as many customers as possible within the first hour of a fault occurring on the high voltage network. During the year 84% of customers affected by a high voltage fault were restored within the hour.
- Reasonably benign weather with lightning levels well below normal causing fewer weather related faults than average. There were two periods of gales in January and March 2004 but the effect on our customers was minimised when we demonstrated yet again our ability to swiftly restore customers following severe weather. No exceptional events were reported to Ofgem during the year.
- Focussed network investment. During the year we invested £63.8m across the WPD South Wales region including the replacement of overhead lines, replacement of switchgear and the introduction of new technology.

WPD moved to an in-house contact centre during 2003 and WPD South Wales was ranked 4th in the league table of all DNOs for its call centre performance during the year. Our contact centre aims to provide all our customers with high levels of service at all times and we were therefore pleased to receive a small financial reward in recognition of the quality of telephone service we provide to our customers relative to that provided by other network operators.

For the reporting year 2004/04 WPD South Wales achieved a performance that exceeded its benchmark performance for CML and is close to the benchmark performance for CI. Our CML performance was 78% of the benchmark figure and our CI figure was 108% of the benchmark

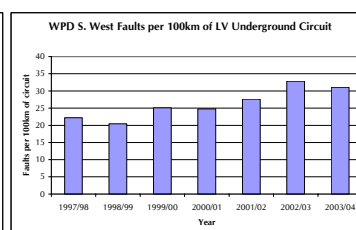
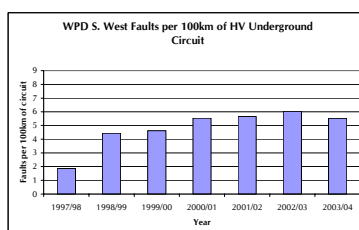
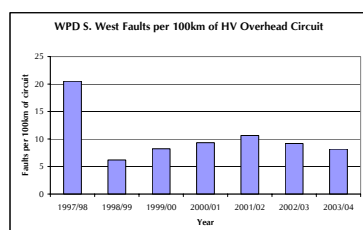
WPD South West – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	103.86	85.47	74.22	103.86	103.86
CML	84.54	64.57	56.59	84.54	84.54

Quality of telephone response performance		
	2002/03	2003/04
WPD South West's score	4.46	4.54
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.11	0.14
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	78.1	67.7	86.1
Unplanned CML	51.3	43.8	70.1



Commentary provided by WPD South West

Customers in WPD South West have already benefited from large performance improvements over the last five years, demonstrating that WPD South West is a frontier performing company at operating a predominately overhead network in a challenging rural terrain.

WPD South West have achieved an excellent performance in 2003/04 and our network performed better than the IIP targets set by Ofgem for the year by a significant margin. In addition Ofgem's auditors have confirmed that that our incident reporting achieved the level of accuracy required by Ofgem

This performance has been predominantly due to three main factors:

- Effective operating procedures such as Target 60 which aims to restore as many customers as possible within the first hour of a fault occurring on the high voltage network. During the year 76.8% of customers affected by a high voltage fault were restored within the hour.
- Reasonably benign weather with lightning levels well below normal causing fewer weather related faults than average. There were two periods of gales in January and March 2004 but the effect on our customers was minimised when we demonstrated yet again our ability to swiftly restore customers following severe weather. No exceptional events were reported to Ofgem during the year.
- Focussed network investment. During the year we invested £104.8m across the WPD South West region including the replacement of overhead lines, replacement of switchgear and the introduction of new technology.

WPD introduced an in-house contact centre during 2003 and WPD South West was ranked 3rd in the league table of all DNOs for its call centre performance during the year. Our contact centre aims to provide all our customers with high levels of service at all times and we are therefore very pleased to receive a financial reward in recognition of the quality of telephone service we provide to our customers relative to that provided by other network operators.

For the reporting year 2004/04 WPD South West achieved a performance that exceeded its benchmark performance for both CI and CML. Our CML performance was 62% of the benchmark figure and our CI figure was 79% of the benchmark

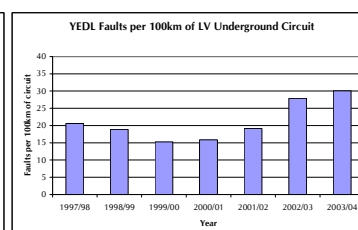
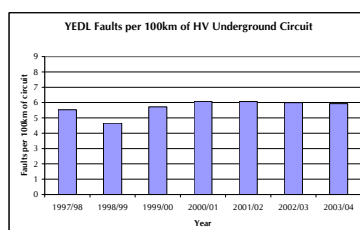
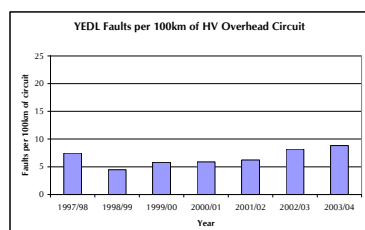
CE - YEDL – Quality of supply and network performance for 2003/04

	Performance			Targets	
	2001/02	2002/03	2003/04	2002/03	2003/04
CI	78.08	63.61	66.99	84.82	84.82
CML	54.60	68.33	73.88	74.43	74.43

Quality of telephone response performance		
	2002/03	2003/04
CE - YEDL's score	4.40	4.47
Industry mean	4.25	4.39

Rewards/Penalties (£ million)		
	2002/03	2003/04
Telephony	0.10	0.10
CI	0	0
CML	0	0

Disaggregation and benchmarking			
	Performance		Average Benchmark
	2002/03	2003/04	
Unplanned CI	62.1	65.0	70.4
Unplanned CML	64.2	69.8	59.7



Commentary provided by CE - YEDL

The YEDL network continues to perform very well. There has been a small increase in both CI and CML between 2002/3 and 2003/4 but this was mainly due to a return to more normal weather patterns from the unusually benign year in 2002/3. In fact the increase was almost entirely due to two storms that affected the company's area on New Year's Eve 2003 and on 20 March 2004.

YEDL's improvement policies have been aimed mainly at reducing the number of interruptions seen by customers. The results of this policy are reflected in the company's excellent interruption performance (CI) relative to the targets set by Ofgem. However, Ofgem has started to place an increasing emphasis on restoration time (CML) and the company will be modifying its policies on improvements to reflect this emphasis. This change will not impact the 2004/5 CML performance but we expect to see its effects by 2005/6.

Recent changes in both the way interruptions are reported and in how circuit lengths are determined have distorted the trend data shown in the three fault-rate graphs. Once corrected for these factors, we believe the underlying fault rates on both HV overhead and underground circuits are showing a slight improvement. We have witnessed an increase in third party damage to underground cables, which has impacted LV underground performance. This increase in third party damage is as a result of the increased economic activity in the area.

YEDL has put a great deal of effort into improving both the speed and usefulness of the information that it provides to customers through its call centre. This is reflected in the excellent figures on telephony performance. YEDL aims to maintain this performance going forward.

Section 4 - Ongoing Work

Over the past year as part of the distribution price control review Ofgem has reviewed the existing quality of service arrangements in place on DNOs. The September update paper for the price control review proposed targets for significant improvements in interruptions performance, stronger incentives to beat those targets, continued incentives relating to telephone response and revised standards of performance arrangements.

The proposed standards of performance arrangements strengthen the incentives that companies have to restore supply as quickly and efficiently as possible following severe weather events and streamline the arrangements for providing compensation to consumers affected. They also extend the coverage of standards of performance to new distributors.

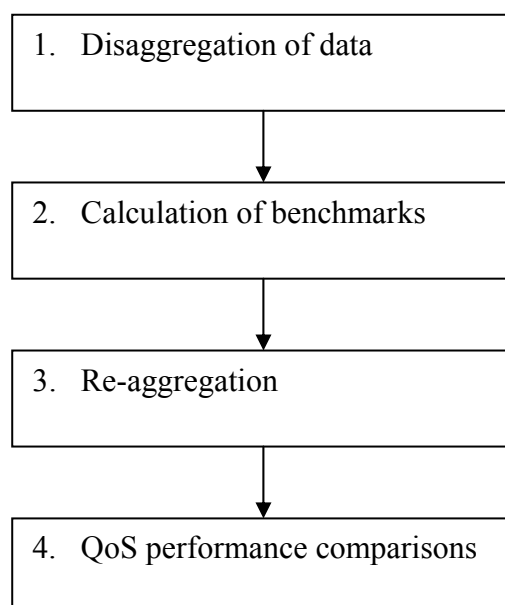
Final proposals for the price control review will be published at the end of November. Ofgem will be consulting on an amended Statutory Instrument to implement the revised standards in January.

Over the coming year Ofgem will be carrying out further work with the DNOs to improve understanding of their quality of service performance, including further work on performance comparisons, network resilience and telephony performance following storms. Ofgem will also be developing a discretionary reward scheme to encourage best practice in areas that cannot easily be measured or incentivised through more mechanistic incentives. This will cover the areas such as priority customer care initiatives, initiatives relating to corporate social responsibility (e.g. activities with schools such as promoting safety awareness) and wider communication strategies implemented by DNOs.

APPENDIX 1 - Comparing and Benchmarking Quality of Supply Performance

This section describes the disaggregation process and the methodology Ofgem has adopted to calculate average benchmark performance levels for each DNO, which are presented in this paper. The disaggregation process is a four-stage process, this is illustrated in Figure A.1.

Figure A.1 Four-stage disaggregation process



The first step in disaggregation is to consider the four voltage levels within a distribution network (Low Voltage - LV, High Voltage – HV, Extra High Voltage - EHV and 132 kV¹⁰) separately. The disaggregation process and benchmark calculations are specific to each voltage level and are summarised below.

Low voltage

As DNOs have limited ability to influence the number of power cuts at LV, the benchmarks are based on their own average performance for 2002/3 and 2003/4. However, as they have more influence over the restoration process, the benchmarks for restoration times (CML per CI) are based on industry average performance. The industry average restoration time is calculated from data for 2001/2 to 2003/4.

High voltage

The HV network has been disaggregated into a number of circuit groups with physically similar characteristics. The bands are defined so that the differences in key characteristics such as the percentage of overhead line, length and the number of connected customers are minimised and that no group is dominated by a single DNO.

¹⁰ A LV system is a system that operates at a nominal voltage level of 1kV or less. A HV system refers to voltage levels above 1kV up to and including 22 kV and EHV refers to voltages greater than 22 kV but below 132 kV. The 132 kV networks are only part of the distribution networks in England and Wales. In Scotland they form part of the transmission network and therefore have not been considered in this analysis.

For each circuit group the following key physical and performance statistics have been calculated:

- average circuit length;
- average customer density (number of customers per circuit);
- average faults per km;
- average number of customers interrupted per fault; and
- average and upper quartile CML per CI.

Ofgem has calculated benchmark levels of performance for each circuit group for 2002/3 and 2003/4. The CI benchmark is based on the DNO's own value for average circuit length and customer density, but the national average for fault rates and customers interrupted per fault relative to customer density. The benchmarks for each band have then been aggregated and an average benchmark has been calculated over 2002/3 and 2003/4.

The CML benchmarks are based on the same approach but then applying the average upper quartile level of performance for restoration times (CML per CI) for 2002/3 and 2003/4.¹¹

Extra High Voltage and 132 kV

For EHV and 132 kV circuits there are relatively few incidents each year, which tends to result in volatile performance. In order to address the volatility, the CI benchmarks are based on each DNO's average performance over the last eleven years. The CML benchmarks have then been calculated by multiplying their CI benchmarks by their average restoration times (CML per CI). The average restoration times are based on the last 3 years as the duration data is more reliable for this period.

Aggregation and Comparison

The benchmarks at each voltage level have then been summed to give an aggregate benchmark for each DNO. Actual DNO performance¹² can then be compared with their average benchmark as set out in section 3c. As the benchmarks are calculated based on similar groups of circuits and take into account DNOs' own customer numbers per circuit and average circuit length, this method provides a more robust basis for comparing quality of supply performance.

However, care should be taken in interpreting the results as there are a number of potential factors that may explain the remaining performance gaps. These include factors such as:

- management performance;
- local environmental differences (e.g. tree density);
- other differences in network design; and,
- historic network investment (e.g. some DNOs invested in large volumes of LV Consac cable, which has performed significantly worse than was generally expected).

¹¹ Actual 2002/3 performance and the benchmarks have been adjusted upwards by 2.6 per cent to account for the October storm period which was excluded from the performance data.

¹² The actual unplanned interruptions data used for the performance comparison analysis fully excludes exceptional events. There are therefore some differences between these figures and the figures used for the purposes of the quality of service incentive scheme 2002/03.

Further work

Ofgem intends to carry out further disaggregation and benchmarking work on an annual basis with the DNOs to improve understanding of quality of service performance.

APPENDIX 2 - Guaranteed and Overall Standards of Performance

Standards of performance are an important element in the regulatory framework and serve to protect the interests of customers in key service areas.

There are two types of standards:

- Guaranteed Standards (GS) set service levels that must be met in each individual case and are established by a series of Statutory Instruments. If the licence holder fails to provide the level of service required, it must make a payment to the customer affected subject to certain exemptions.
- Overall Standards (OS) require DNOs' average level of performance for particular services to be above a minimum level.

Guaranteed Standards¹³ (GS) cover 8 service areas, which are shown in Table A2.1. These standards have been set to guarantee a level of service that it is reasonable to expect companies to deliver in all cases. A customer who does not receive the required level of service is entitled to a compensation payment, subject to certain exemptions. It is for the DNO to consider the application of the standards of performance regulations and decide whether an exemption applies. However, customers may challenge the application of the exemption and refer the issue to energywatch and then if appropriate, Ofgem. In such cases Ofgem decides whether or not the DNO has acted consistently with its legal obligations and whether the customer is due compensation.

Reporting code	Service	Performance Level	Penalty Payment
GS1	Respond to failure of distributors fuse	All DNOs to respond within 3 hours on weekdays (at least 7 am to 7 pm, and within 4 hours at weekends between (at least 9 am to 5 pm)	£20
GS2*	Restoration of supply following a fault	Supplies must be restored within 18 hours, otherwise a payment must be made	£50 domestic customers £100 non-domestic, plus £25 for each further 12 hours
GS2A*	Multiple Interruptions	Four or more separate interruptions each lasting 3 or more hours in any single year (1 April – 31 March)	£50
GS3	Estimating charges for connection	5 working days for simple jobs and 15 working days for most others	£40
GS4*	Notice of planned interruption to supply	Customers must be given at least 2 days notice	£20 domestic customers £40 non-domestic
GS5	Investigation of voltage complaints	Visit within 7 working days or substantive reply within 5	£20
GS8	Making and keeping appointments	Companies must offer and keep a morning or afternoon appointment, or a timed appointment if requested by the customer	£20
GS9	Notifying customers of payments owed under the standards	Payment to be made within 10 working days	£20

* Customers need to claim under these standards, for the remaining standards payments are automatic

¹³ GS6 and GS7 relate to electricity supply businesses and are therefore not shown in this report.

Overall Standards (OS) set the minimum levels of performance that distribution businesses are required to achieve over a 12-month period in specific service areas. A description of these standards is provided in the table below.

There is currently no obligation to make a payment to the customer if a DNO fails to meet an OS. Under SI 3265 (2001) DNOs are required to report on their performance against the Overall Standards.

Reporting code	Service	Target level
OS1	Restoration of Supply: Minimum percentage of supplies to be reconnected following faults within 18 hours	99.5%
OS2	Voltage Complaints: Minimum percentage of voltage complaints to be corrected within 6 months	100%
OS3a	New Connections: Minimum percentage of domestic consumers connected within 30 working days	100%
OS3b	New Connections: Minimum percentage of business premises connected within 40 working days	100%
OS4	Correspondence: Minimum percentage of customers letters to be responded to within 10 working days	100%
OS5	Multiple interruptions (from 1 April 2002): Minimum percentage of customers experiencing no more than five interruptions each lasting 3 minutes or more	96% - 99%

Individual DNO targets:

- OS5 – EDF - LPN 99%, CN East, EDF - EPN, SP Distribution, EDF - SPN, SSE - Southern, SP Manweb, UU, and CE - YEDL 98%, CN West, SSE - Hydro, CE - NEDL, WPD S. Wales and WPD S. West 96%.

Ofgem is proposing to remove overall standards of performance from 1 April 2005 and, where appropriate, introduce new reporting requirements as part of the outputs reporting framework.

APPENDIX 3 - TABLES

Table 3.1
Reported & Revised 2003/04 Customer Interruptions and Customer Minutes Lost

DNO	Reported 2003/04 CIs	Overall accuracy adjustment	Revised 2003/04 CIs		Reported 2003/04 CMLs	Overall accuracy adjustment	Revised 2003/04 CMLs
CN West	132.60	0.00%	132.60		131.41	0.00%	131.41
CN East	90.39	-1.07%	89.42		94.37	0.00%	94.37
EDF - EPN	93.23	0.00%	93.23		81.97	0.00%	81.97
SSE - Hydro	105.97	0.00%	105.97		102.63	0.00%	102.63
EDF - LPN	55.09	0.00%	55.09		44.34	0.00%	44.34
CE - NEDL	78.07	0.00%	78.07		91.54	0.00%	91.54
SP Distribution	67.36	0.00%	67.36		83.01	0.00%	83.01
EDF - SPN	99.11	0.00%	99.11		90.18	0.00%	90.18
SSE - Southern	88.01	0.00%	88.01		81.05	0.00%	81.05
SP Manweb	52.42	0.00%	52.42		67.58	0.00%	67.58
UU	50.98	0.00%	50.98		59.31	0.00%	59.31
WPD S. Wales	105.33	0.00%	105.33		79.01	0.00%	79.01
WPD S. West	74.22	0.00%	74.22		56.59	0.00%	56.59
CE - YEDL	66.99	0.00%	66.99		73.88	0.00%	73.88
Great Britain			82.57				81.11

Note: The figures in this table do not exclude exceptional events, the adjusted incentive scheme figures are shown in Table 3.5

Table 3.2

Short interruptions in 2003/04

Short interruptions by "causes" (including LV)	GB Average	CN West	CN East	EDF - EPN	SSE - Hydro	EDF - LPN	CE - NEDL	SP Distribution	EDF - SPN	SSE - Southern	SP Manweb	UU	WPD S. Wales	WPD S.West	CE - YEDL
Automatic operation and restored by automatic switching	25,453,498	3,466,411	1,325,389	3,682,261	2,008,676	135,242	903,571	570,637	1,812,248	3,531,115	1,373,391	810,820	2,278,847	2,430,055	1,124,835
Automatic operation and restored by manual or remote switching	1,608,594	988,468	46,748	-	5,749	-	62,945	15,677	102,118	86,894	17,280	-	42,610	101,711	138,394
Manual or remote operation	1,386,641	88,574	632,872	123,860	10,363	57,360	509	111,920	16,722	74,865	77,221	21,231	48,411	111,023	11,710
Operation of switchgear on other connected systems	260,905	-	-	-	133,421	-	76,533	49,646	-	-	1,305	-	-	-	-
Total	28,709,638	4,543,453	2,005,009	3,806,121	2,158,209	192,602	1,043,558	747,880	1,931,088	3,692,874	1,469,197	832,051	2,369,868	2,642,789	1,274,939
Short interruptions per 100 connected customers															
Automatic operation and restored by automatic switching	91	149	54	108	294	6	59	29	84	128	94	36	212	166	52
Automatic operation and restored by manual or remote switching	6	43	2	0	1	0	4	1	5	3	1	0	4	7	6
Manual or remote operation	5	4	26	4	2	3	0	6	1	3	5	1	4	8	1
Operation of switchgear on other connected systems	1	0	0	0	20	0	5	3	0	0	0	0	0	0	0
Total	102	196	81	111	315	9	69	38	89	134	100	37	220	180	59

Table 3.3

Revised 2003/04 Customer Interruptions & Customer Minutes Lost: Split by Source

	CN West	CN East	EDF - EPN	SSE - Hydro	EDF - LPN	CE - NEDL	SP Distribution	EDF - SPN	SSE - Southern	SP Manweb	UU	WPD S.Wales	WPD S. West	CE - YEDL		GB Total
Customer numbers 2003/04	2323792	2471437	3415372	684124	2255232	1518745	1962975	2168321	2760987	1468457	2279297	1076287	1466838	2171755		28023619
Number																
Unplanned interruptions (000's)	2,706	2,062	3,108	567	770	1,071	1,205	2,049	2,323	719	1,132	951	993	1,412		21,069
Pre-arranged interruptions (000's)	136	94	75	68	25	78	53	71	107	51	30	137	96	43		1,064
Incidents on National Grid Company or Transmission Companies (000's)	237	55	0	76	447	36	64	29	0	0	0	46	0	0		990
Incidents on embedded generators (000's)	2	0	1	13	0	0	0	0	0	0	0	0	0	0		16
Incidents on any other connected systems (000's)	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1
Total (000's)	3,081	2,210	3,184	725	1,243	1,186	1,322	2,149	2,430	770	1,162	1,134	1,089	1,455		23,139
CIs	132.60	89.42	93.23	105.97	55.09	78.07	67.36	99.11	88.01	52.42	50.98	105.33	74.22	66.99		82.57
Duration																
Unplanned interruptions (000's)	264,543	209,525	258,750	52,790	81,842	120,780	143,765	180,892	197,255	89,419	126,626	54,676	64,180	151,566		1,996,608
Pre-arranged interruptions (000's)	31,634	23,130	21,216	11,718	5,996	16,511	11,967	14,304	26,513	9,816	8,532	27,265	18,821	8,873		236,298
Incidents on National Grid Company or Transmission Companies (000's)	9,041	562	0	5,557	12,147	1,728	7,214	337	0	0	5	3,085	0	0		39,674
Incidents on embedded generators (000's)	151	0	5	143	8	1	0	0	0	0	0	0	0	0		308
Incidents on any other connected systems (000's)	0	0	0	3	10	0	0	0	0	0	14	8	1	0		35
Total (000's)	305,368	233,217	279,972	70,210	100,003	139,020	162,945	195,533	223,768	99,235	135,176	85,033	83,002	160,439		2,272,924
CMLs	131.41	94.37	81.97	102.63	44.34	91.54	83.01	90.18	81.05	67.58	59.31	79.01	56.59	73.88		81.11

Note: Figures may differ slightly due to rounding

Note: The figures in this table do not exclude exceptional events, the adjusted incentive scheme figures are shown in Table 3.5

Table 3.4

2003/04 Sum of Customers Interrupted & Sum of Customer Minutes Lost: Split by Voltage Level

	CN West	CN East	EDF - EPN	SSE - Hydro	EDF - LPN	CE - NEDL	SP Distribution	EDF - SPN	SSE - Southern	SP Manweb	UU	WPD S.Wales	WPD S.West	CE - YEDL		GB Total
Customer Numbers	2,323,792	2,471,437	3,415,372	684,124	2,255,232	1,518,745	1,962,975	2,168,321	2,760,987	1,468,457	2,279,297	1,076,287	1,466,838	2,171,755		28,023,619
Sum of number of Customers Interrupted																
132 kV (000's)	237	12	248	0	41	0	0	98	40	0	0	0	24	57		756
EHV (000's)	218	120	323	148	73	88	186	154	311	48	52	50	99	24		1,893
HV (000's)	2,017	1,822	2,304	418	448	863	917	1,687	1,718	624	877	934	777	1,071		16,477
LV (000's)	270	192	269	53	177	169	124	126	326	75	200	87	164	231		2,462
LV Services (000's)	99	10	39	16	57	30	32	55	35	23	32	18	25	72		544
Incidents on National Grid Company or Transmission Companies (000's)	237	55	0	76	447	36	64	29	0	0	0	46	0	0		990
Incidents on embedded generators (000's)	2	0	1	13	0	0	0	0	0	0	0	0	0	0		16
Incidents on any other connected systems (000's)	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1
Total (000's)	3,081	2,210	3,184	725	1,243	1,186	1,322	2,149	2,430	770	1,162	1,134	1,089	1,455		23,139
CIs	132.60	89.42	93.23	105.97	55.09	78.07	67.36	99.11	88.01	52.42	50.98	105.33	74.22	66.99		82.57
Sum of customer minutes lost																
132 kV (000's)	8,852	1,474	11,250	0	1,053	0	0	3,622	278	0	0	0	235	2,836		29,599
EHV (000's)	5,971	3,610	14,305	10,492	1,227	1,775	10,422	5,687	12,534	3,753	1,915	1,946	1,452	561		75,651
HV (000's)	215,960	183,054	193,008	44,619	25,410	103,710	118,704	147,709	139,938	77,776	84,251	64,769	53,117	105,783		1,557,809
LV (000's)	53,826	41,461	55,518	7,917	47,609	29,278	21,499	28,101	66,446	13,888	45,068	13,247	25,178	42,239		491,274
LV Services (000's)	11,568	3,057	5,873	1,479	12,530	2,528	5,107	10,078	4,572	3,818	3,923	1,979	3,019	9,021		78,551
Incidents on National Grid Company or Transmission Companies (000's)	9,041	562	0	5,557	12,147	1,728	7,214	337	0	0	5	3,085	0	0		39,674
Incidents on embedded generators (000's)	151	0	5	143	8	1	0	0	0	0	0	0	0	0		308
Incidents on any other connected systems (000's)	0	0	0	3	10	0	0	0	0	0	14	8	1	0		35
Total (000's)	305,368	233,217	279,959	70,210	99,994	139,020	162,945	195,533	223,768	99,235	135,176	85,033	83,002	160,439		2,272,902
CMLs	131.41	94.37	81.97	102.63	44.34	91.54	83.01	90.18	81.05	67.58	59.31	79.01	56.59	73.88		81.11

Note: Figures may differ slightly due to rounding

Note: The 132kV network in Scotland forms part of the Transmission system

Note: The figures in this table do not exclude exceptional events, the adjusted incentive scheme figures are shown in Table 3.5

Table 3.5

Incentive scheme: 2003/04 Customer Interruptions & Minutes Lost as a Percentage of Respective 2003/04 Targets

DNO	2003/04 CI Target	2003/04 Incentive Scheme CIs	2003/04 Incentive Scheme CIs as % of 2003/04 Target		2003/04 CML Target	2003/04 Incentive Scheme CMLs	2003/04 Incentive Scheme CMLs as a % of 2003/04 Target
CN West*	131.00	116.01	89		125.87	107.09	85
CN East*	81.30	85.32	105		92.73	89.50	97
EDF - EPN*	102.02	90.68	89		82.31	76.51	93
SSE - Hydro*	135.10	89.07	66		195.80	84.14	43
EDF - LPN	38.62	35.25	91		45.03	39.49	88
CE - NEDL*	89.70	67.50	75		96.54	71.19	74
SP Distribution*	66.40	61.59	93		87.70	76.40	87
EDF - SPN	96.80	97.77	101		96.65	90.04	93
SSE - Southern	99.75	88.01	88		100.58	81.05	81
SP Manweb*	47.20	50.97	108		65.80	64.31	98
UU	56.45	50.97	90		68.20	59.30	87
WPD S. Wales	152.80	101.06	66		129.20	76.42	59
WPD S. West	103.86	74.22	71		84.54	56.59	67
CE - YEDL	84.82	66.99	79		74.43	73.88	99
GB average		77.19				75.31	

*Note: CN West's 2003/04 CI and CML figures were reduced as a result of 3 exceptional events
 CN East's 2003/04 CI and CML figures were reduced as a result of 1 exceptional event
 EDF - EPN's 2003/04 CI and CML figures were reduced as a result of 1 exceptional event
 SSE - Hydro's 2003/04 CI and CML figures were reduced as a result of 1 exceptional event

CE - NEDL's 2003/04 CI and CML figures were reduced as a result of 2 exceptional events
 SP Distribution's 2003/04 CI and CML figures were reduced as a result of 1 exceptional event
 SP Manweb's 2003/04 CI and CML figures were reduced as a result of 1 exceptional event

Table 3.6

Distribution Network Operator Information 2003/04

DNO	Total No of Customers	Length of circuit km									
		132kV		66kV		33kV		HV		LV	
		Overhead	Underground	Overhead	Underground	Overhead	Underground	Overhead	Underground	Overhead	Underground
CN West	2,323,792	1,396	3	801	16	1,041	380	14,684	11,652	6,230	24,370
CN East	2,471,437	2,448	2	0	0	2,799	1,466	12,835	12,534	5,221	31,549
EDF - EPN	3,415,372	2,539	2	0	0	3,497	2,186	19,266	17,827	9,442	37,178
SSE - Hydro*	684,124			0	0	5,337	754	21,553	4,275	4,296	8,222
EDF - LPN	2,255,232	30	472	17	426	0	637	1	9,471	0	19,972
CE - NEDL	1,518,745	603	73	1,012	439	356	384	10,182	7,498	2,965	16,606
SP Distribution*	1,962,975			0	0	2,963	1,838	16,953	15,189	4,544	24,110
EDF - SPN	2,168,321	1,178	335	0	0	1,298	1,312	5,786	11,243	4,628	24,158
SSE - Southern	2,760,987	1,868	402	6	188	3,489	2,000	13,413	14,960	8,967	30,198
SP Manweb	1,468,457	1,299	213	0	0	1,943	1,601	12,605	6,546	5,657	17,410
UU	2,279,297	1,330	231	0	0	1,429	1,786	8,019	11,529	2,931	31,434
WPD S. Wales	1,076,287	1,158	90	354	3	1,264	352	12,240	5,045	3,226	10,012
WPD S. West	1,466,838	1,377	72	0	0	2,851	992	16,643	6,088	7,684	12,671
CE - YEDL	2,171,755	1,062	402	877	179	1,279	1,977	8,789	10,100	1,845	24,852
Great Britain	28,023,619	16,287	2,298	3,067	1,251	29,546	17,665	172,968	143,957	67,636	312,742

Note: The 132kV network in Scotland forms part of the Transmission system

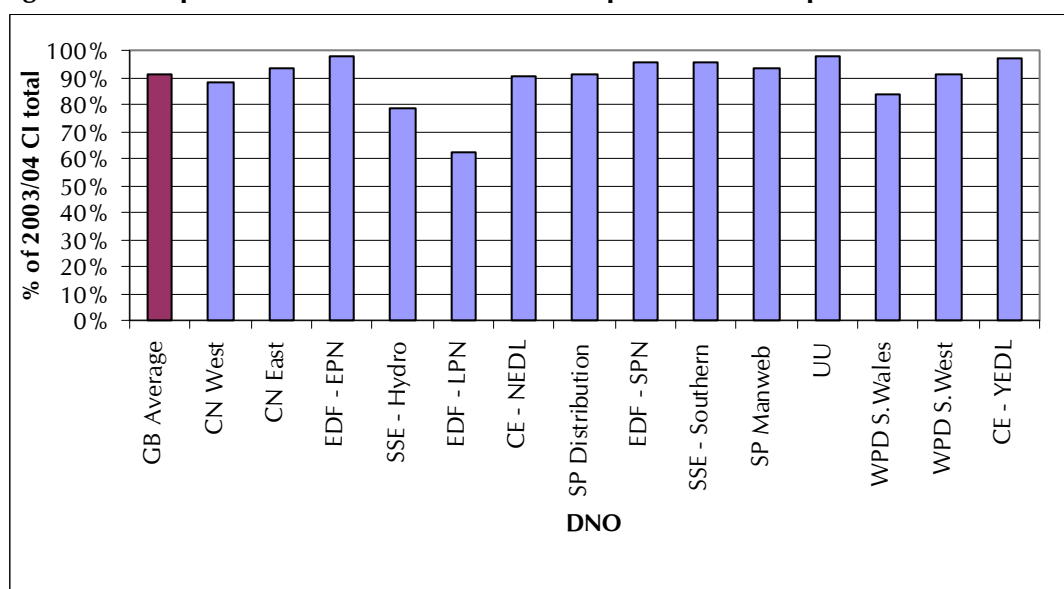
APPENDIX 4

Sources of 2003/04 Customer Interruptions (CIs) and Customer Minutes Lost (CMLs)

The number and duration of interruptions to supply can be broken down into the following five categories:

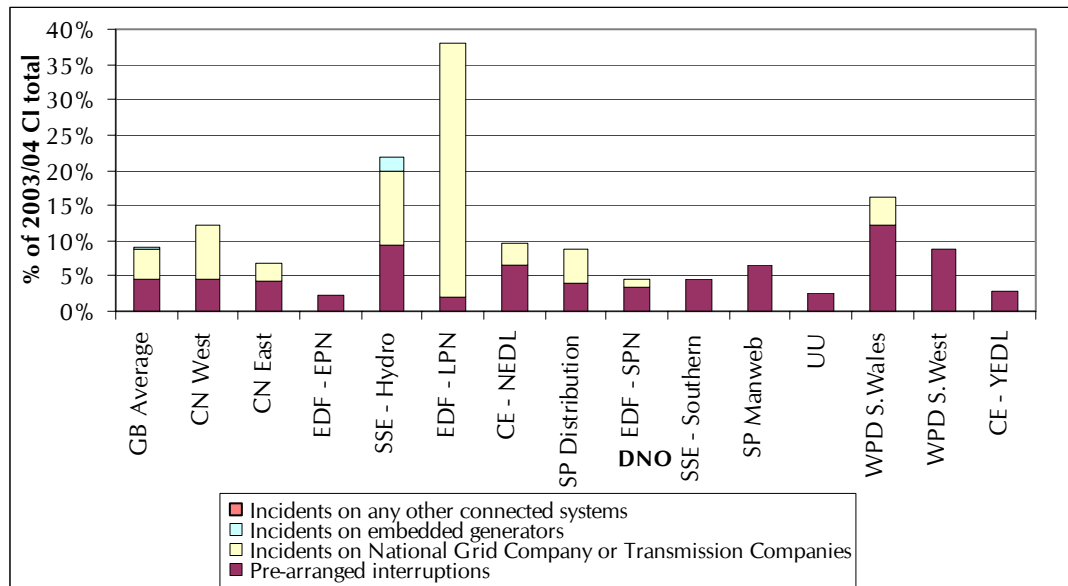
- unplanned interruptions arising on the DNO's own network;
- pre-arranged interruptions on the DNO's network;
- interruptions arising on the National Grid Company's system or the Transmission Companies' systems (in Scotland);
- interruptions arising from generators connected to the distribution network; and
- interruptions on any other connected systems.

Figure 4.1 Proportion of 2003/04 CIs due to Unplanned Interruptions¹⁴



¹⁴ There are no "correct" proportions of customer interruptions and customer minutes lost across the various sources and improvements in one area will, if all else remains equal, lead to higher proportions being attributed to other sources. Figures 4.1, 4.2, 4.3 and 4.4 should be considered in conjunction with the actual levels of performance shown in Figures 1 and 2.

Figure 4.2 Proportion of 2003/04 CIs by Sources other than Unplanned Interruptions



Figures 4.1 and 4.2 show the sources of interruptions to supply in 2003/04. Unplanned incidents are the most significant cause of interruptions, accounting for over 80 per cent of interruptions for all DNOs and exceeding 90 per cent for 12 DNOs. Unplanned interruptions are caused by many factors, such as;

- failure of equipment;
- lightning hitting lines and damaging equipment;
- high winds blowing over poles and bringing power lines down;
- strikes by large wildfowl; and
- third party activity such as workers accidentally severing power cables.

Planned interruptions relate to the temporary suspension of supply for reasons such as carrying out repairs, maintenance and construction. Customers are required to be given two days notice prior to the start of such work. New industry working practices and techniques, such as “hot-glove” working are reducing the need to interrupt supplies to carry out repairs. Incidents on the National Grid Company or Transmission Companies are generally rare, but due to the voltages involved, when they do occur they affect large numbers of customers¹⁵.

¹⁵ Figure 4.2 includes a large number of customer interruptions relating to a transmission outage in the London area in August 2003.

Figure 4.3 Proportion of 2003/04 CMLs due to Unplanned Interruptions

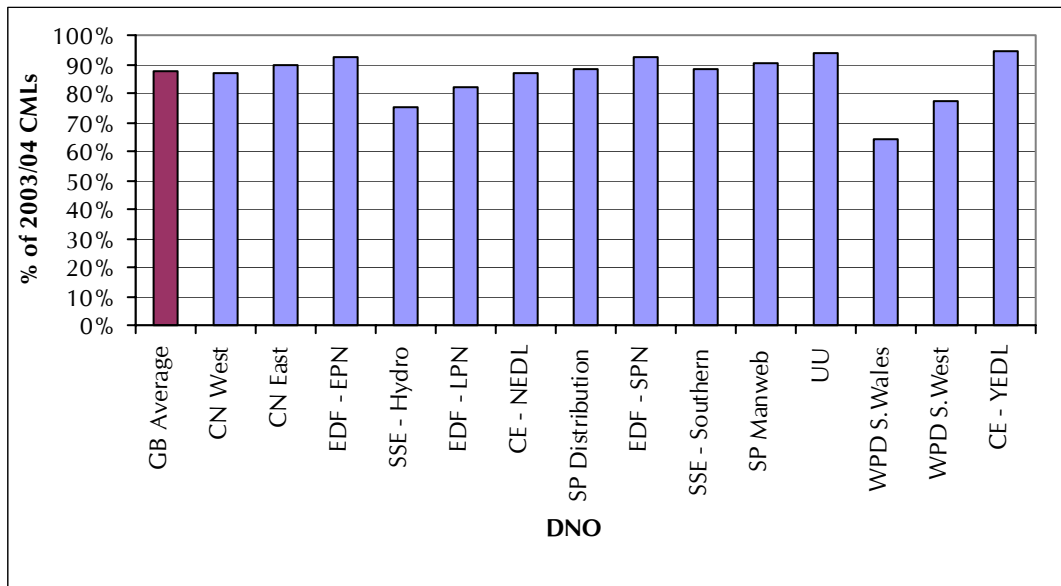
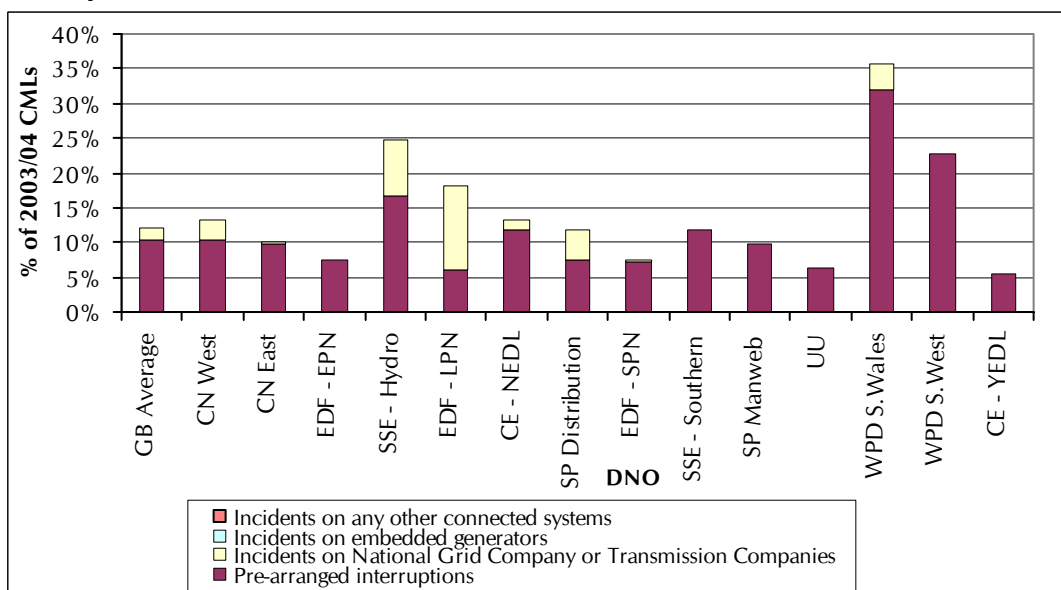


Figure 4.4 Proportion of 2003/04 CMLs by Sources other than Unplanned Interruptions



Figures 4.3 and 4.4 show the proportion of the duration of interruptions to supply in 2003/04 by source. Unplanned interruptions account for the bulk of customer minutes lost, with 11 DNOs having over 80 per cent of their minutes lost being due to this source. Within the remaining categories, planned work can be seen to be more significant in terms of customer minutes lost than it was in terms of customers interrupted.

2003/04 Customer Interruptions (CIs) and Customer Minutes Lost (CMLs): Split by Voltage Level

The number and duration of interruptions can also be disaggregated by the voltage level at which they occurred. The voltage levels are classified as follows:

- 132kV;
- Extra High Voltage (EHV) – voltages greater than 22kV but less than 132kV;
- High Voltage (HV) – voltages from 1kV up to 22kV;
- Low voltage (LV) voltages less than 1kV; and
- LV Services – the service line connecting the electricity main to the distribution company's protection device situated upon the customer's premises.

Figure 4.5 Great Britain Average: 2003/04 Proportion of Customer Interruptions by Voltage

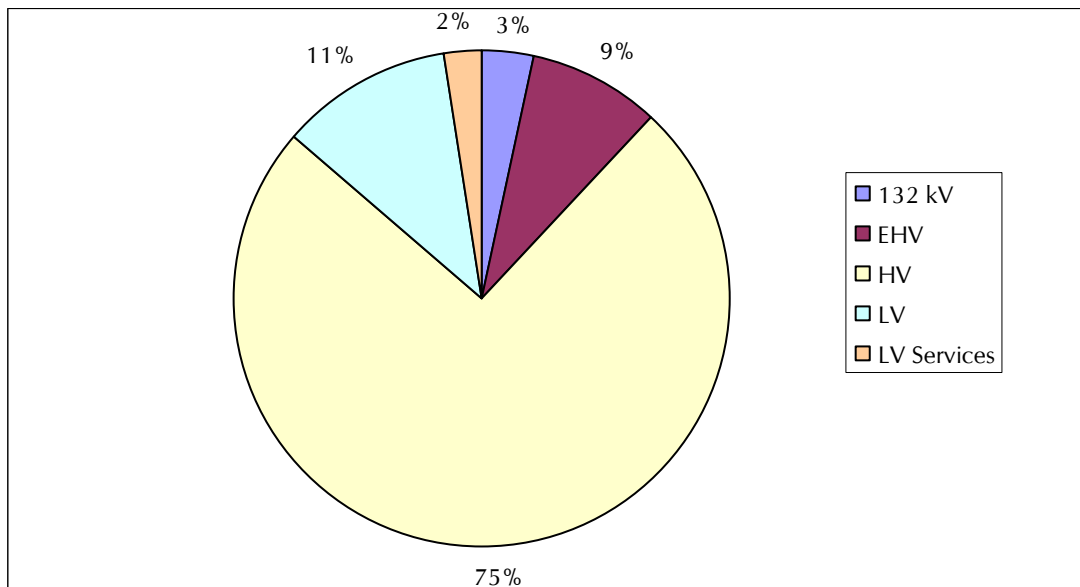
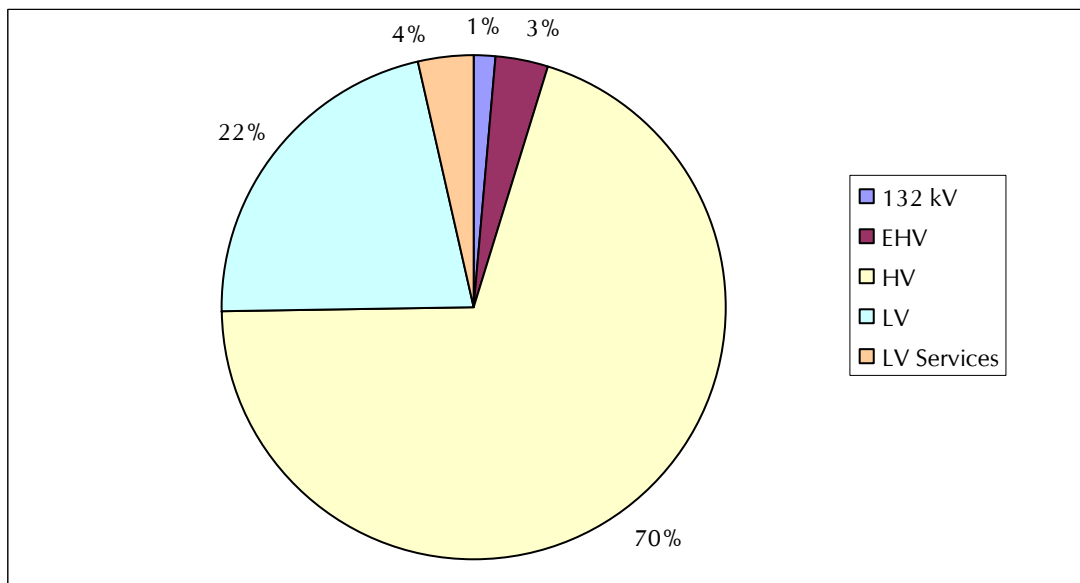


Figure 4.6 Great Britain Average: 2003/04 Proportion of Customer Minutes Lost by Voltage



Figures 4.5 and 4.6 show on a Great Britain basis, the proportion of customer interruptions and customer minutes lost according to the voltage levels at which the faults occurred. As seen in both figures, around 70 per cent of interruptions and minutes lost nationwide were as a result of faults on the HV network. Amongst DNOs this proportion was generally typical, although EDF - LPN, with 56 per cent of its interruptions and 29 per cent of its minutes lost coming from HV faults, is significantly below this level as nearly its entire HV network is underground.