

An aerial photograph of a tall, silver metal lattice tower (pylon) for high-voltage power lines. The tower stands in a large green field. In the background, there are rolling hills, a small white house with a grey roof, and various agricultural fields in shades of green and brown. The sky is clear and blue. The text 'ESB Networks 2014 Performance Report' is overlaid in white, bold, italicized font across the center of the image.

***ESB Networks  
2014 Performance Report***

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## 1. Executive Summary

As part of an overall investment programme worth €4 billion, ESB Networks invested €408m in 2014 on national energy infrastructure. Our investment activities focused on renewing and extending the distribution and transmission systems to provide Ireland with an improved electricity network.

The new ESB Networks strategy for 2027 was published and launched. The document was named 'ESB Networks 2027 - Lighting the way to a better energy future'.

Our continued involvement in numerous innovative R&D projects continued within the Smart Networks function in the form of FINESCE, PlanGridEV and evolvDSO – all of which were part funded by the European Commission under the FP7 framework.

The European Commission awarded the North Atlantic Green Zone (NAGZ) project €32m in grant funding under the Connecting Europe Facility (CEF) mechanism to implement an infrastructural scale Smart Grid in the North West of Ireland.

Our customer service satisfaction surveys undertaken in 2014 returned an average satisfaction figure of 80.5%<sup>1</sup>.

In 2014, the number of Gate 3 Generator offer acceptances was 115. These numbers translate into 1,830MW of acceptances. By the end of 2014, there were only three Gate 3 distribution offers remaining to be accepted. One Gate 3 offer has lapsed since being issued in 2014, comprising 27.5MW in total.

Approximately 60% of Gate 3 developers have opted to build their shallow connections contestably.

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<sup>1</sup> Based on a PR3 target of 74.0%

## 2. Introduction

ESB Networks complies with the requirements contained in the Distribution System Operator (DSO) Licence and the Transmission System Owner (TAO) Licence. Condition 13 of the DSO Licence requires the DSO to report annually on its performance and Condition 11 of the TAO Licence requires the TAO to report annually on its performance. This report has been prepared by ESB Networks on behalf of the DSO and TAO for the year ending December 2014 in order to fulfil these licence obligations.

The criteria reported upon in this report have been approved by the CER (Commission for Energy Regulation) in accordance with Condition 13 of the DSO Licence and Condition 11 of the TAO Licence. A copy of each of these licences and the approved performance criteria can be found at the following link:

[http://www.esb.ie/esbnetworks/en/download\\_documents/reports\\_codes.jsp](http://www.esb.ie/esbnetworks/en/download_documents/reports_codes.jsp)

Performance is reported under the following headings:

- Customer Service
- Cost Performance
- Capital Programme
- Supply Quality & Reliability
- Safety
- Sustainability
- Service Level Agreements Performance
- Compliance with licence requirements

### 2.1 Publication of Report on ESB Networks Website

In compliance with conditions 13 & 17 of the DSO Licence and Condition 11 of the TAO Licence, this performance report will be published on the ESB Networks website at the following link:

[http://www.esb.ie/esbnetworks/en/download\\_documents/reports\\_codes.jsp](http://www.esb.ie/esbnetworks/en/download_documents/reports_codes.jsp)

### 3. Customer Service

Key indicators of customer service performance include service delivery by the Customer Contact Centre and the treatment of complaints by ESB Networks staff. The percentage of calls answered within 20 seconds and the percentage of calls dropped are key performance criteria used to measure the quality of service provided to customers. Table 1 summarises the call answering performance of the contact centre. Graphs 1 and 2 show the trends in call handling response since 2009.

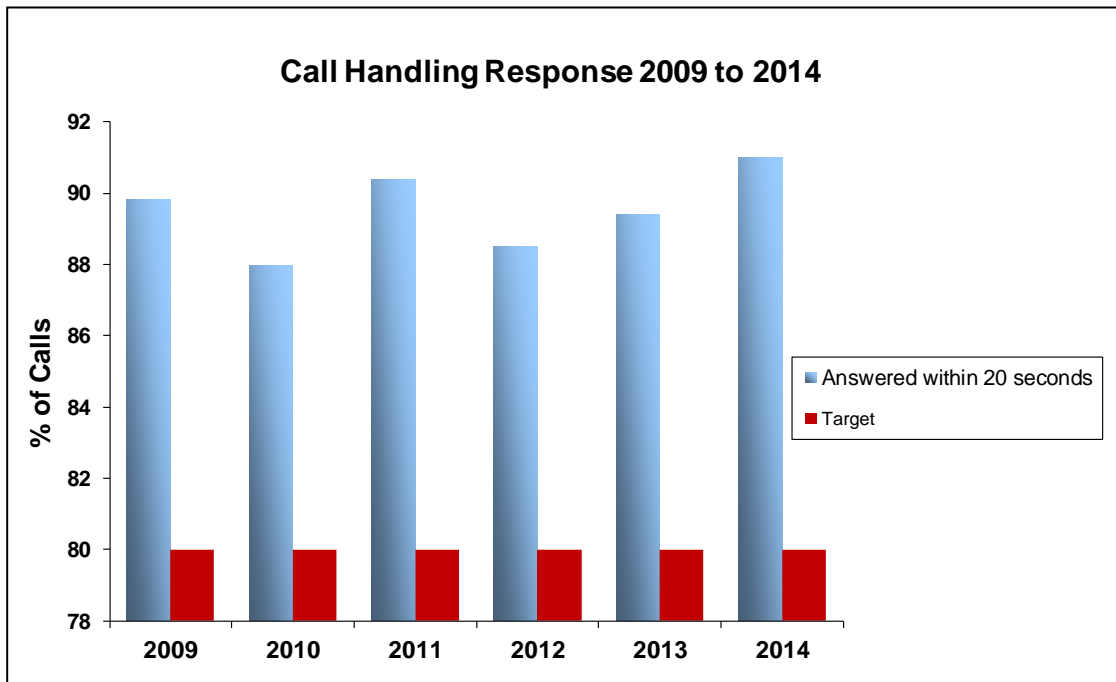
**Table 1 – Customer Service Key Indicators**

Description of Criteria	2013	2014	Target
<b>Call Handling Response<sup>2</sup></b>			
Percentage of calls answered within 20 seconds	89.4 %	90.1%	80%
Percentage of calls dropped <sup>3</sup>	3.7 %	5.1%	5%
Networks customer calls to the call centre <sup>4</sup>	625,515	558,198	

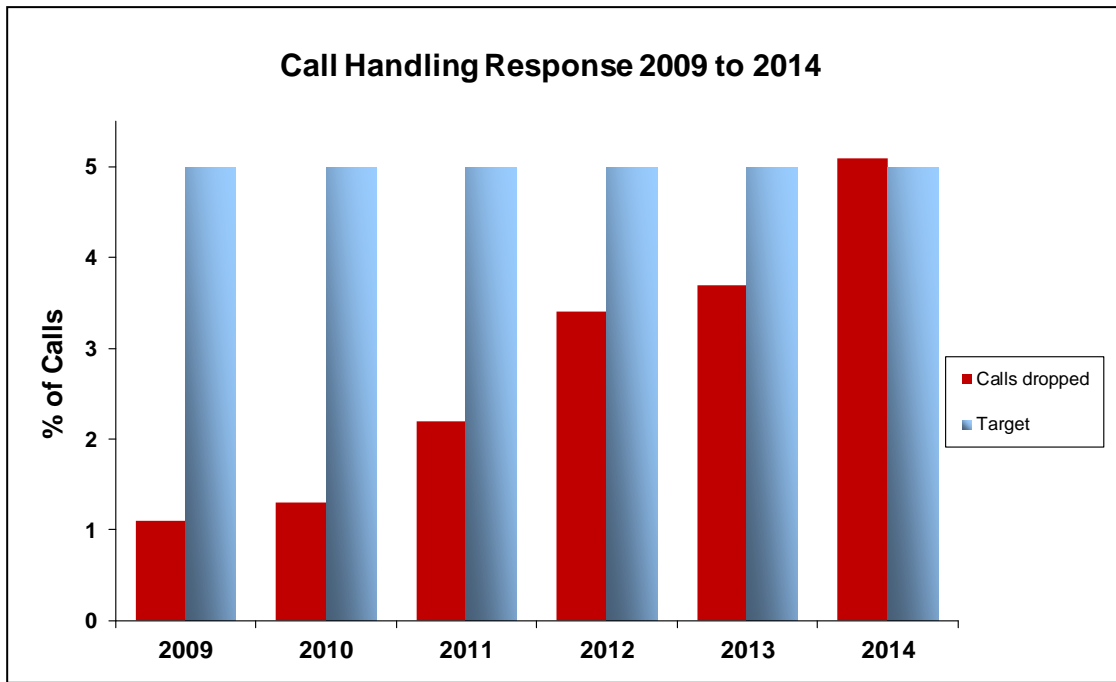
<sup>2</sup> Note both sets of figures are inclusive of storms, which has the effect of reducing the percentage of calls handled and increasing the percentage of calls dropped.

<sup>3</sup> Where the customer has terminated the call without waiting for a response.

<sup>4</sup> The exact number of calls relating to ESB Networks issues are identified.



Graph 1



Graph 2

### **3.1 Customer Service**

The distribution system Customer Service Code, Complaints Handling Procedure and Disconnection Code of Practice have been submitted to and approved by the CER. These procedures are published by ESB Networks on our website as follows:

- Distribution System Customer Service Code  
[http://www.esb.ie/esbnetworks/en/about-us/customer\\_charter/customer\\_charter.jsp](http://www.esb.ie/esbnetworks/en/about-us/customer_charter/customer_charter.jsp)
- Complaints Handling Procedure  
<http://www.esb.ie/esbnetworks/en/about-us/complaints.jsp>
- Disconnection Code of Practice  
<http://www.esb.ie/esbnetworks/en/commercial-downloads/Denergisation-Code-of-Practice.pdf>

### **3.2 Customer Service Code**

ESB Networks strives to provide services to a high level of quality and in a timely fashion to meet customer requirements and is committed to making service excellence a priority in all customer dealings, in particular in the areas of telephone response, restoration of supply outages and meeting the 12 service performance guarantees in our *Customer Charter*. The volume of Customer Charter payments in 2014 was 1,155.

Our commitment to protect the interests of vulnerable customers, in particular those on life support equipment, is on-going and these customers have the facility to avail of priority telephone access to ESB Networks provided they register with their suppliers.

### **3.3 Complaints Handling Procedure**

ESB Networks employs a simple and effective complaints handling procedure to support quick and efficient resolution of problems.

The complaints procedure encourages initial complaints to be submitted via three channels:

- a) A dedicated phone line in our Customer Contact Centre
- b) By email to a dedicated email address
- c) In writing through the local ESB Networks office

Staff in our Customer Contact Centre, and local management, are empowered to resolve complaints promptly and our target is to respond to 92% of all complaints received through these channels within 5 working days. The ESB Networks complaints facilitator produces a monthly management report to monitor both the volume of complaints received and our response performance in relation to these complaints.

Table 2 gives a breakdown of the complaints received during 2014.

**Table 2 – Number of Complaints<sup>5</sup> Received**

Description of Criteria	2013	2014
<b>Complaints received</b>	<b>Number</b>	<b>Number</b>
Concerning low voltage	43	49
For frequent outages	923	1,223
Time to connect customers	19	14
Operation delays and overruns	53	37
From suppliers	0	0
On connection costs and budget quotations	40	30
On meter reading and estimated reads	330	242
Others	767	793
<b>Total complaints received in 2014</b>	<b>2,175</b>	<b>2,388</b>

**Table 3 – Number of Terminations and De-energisations**

Description of Criteria	2013	2014
<b>Connection points terminated<sup>6</sup></b>	15,896	17,739
<b>Connection points de-energised<sup>7</sup></b>	12,493	8,859

<sup>5</sup> Please note, complaints specifically relate to queries which cannot be resolved in the area in which they have arisen, but instead have to be referred to another party – either within ESB Networks, or an outside party.

<sup>6</sup> This includes connection points in vacant premises that have been terminated following previous de-energisation and de-registration, it also includes MPRN's associated with housing scheme quotations that have not progressed.

<sup>7</sup> De-energisation for non-payment ONLY.



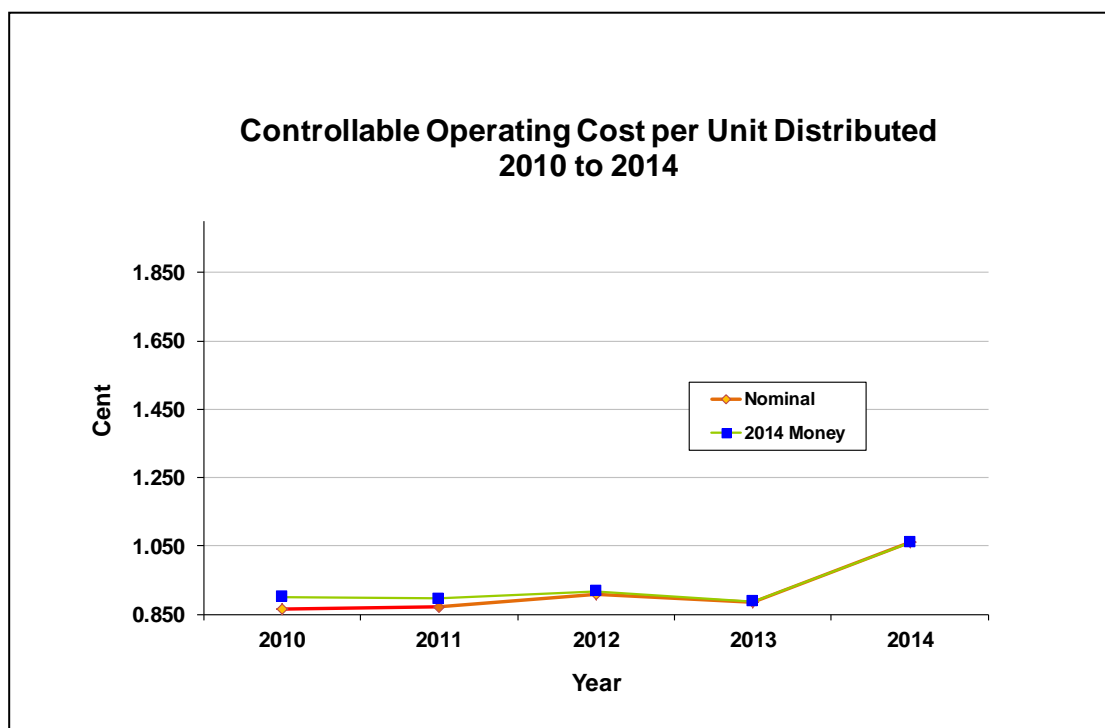
## 4. Cost Performance

The CER have set targets for operating expenditure and the DSO will aim to achieve these and where possible improve on them. Table 4 summarises the DSO's performance in 2014 in relation to two key cost criteria.

**Table 4 – Cost Performance**

Description of criteria	2013	2014
<b>Controllable Costs<sup>8</sup></b>		
Controllable Operating Cost per Unit Distributed	0.88c / kWh	1.06c / kWh
Controllable Operating Cost per Customer	€88.50 / Customer	€104.51 / Customer

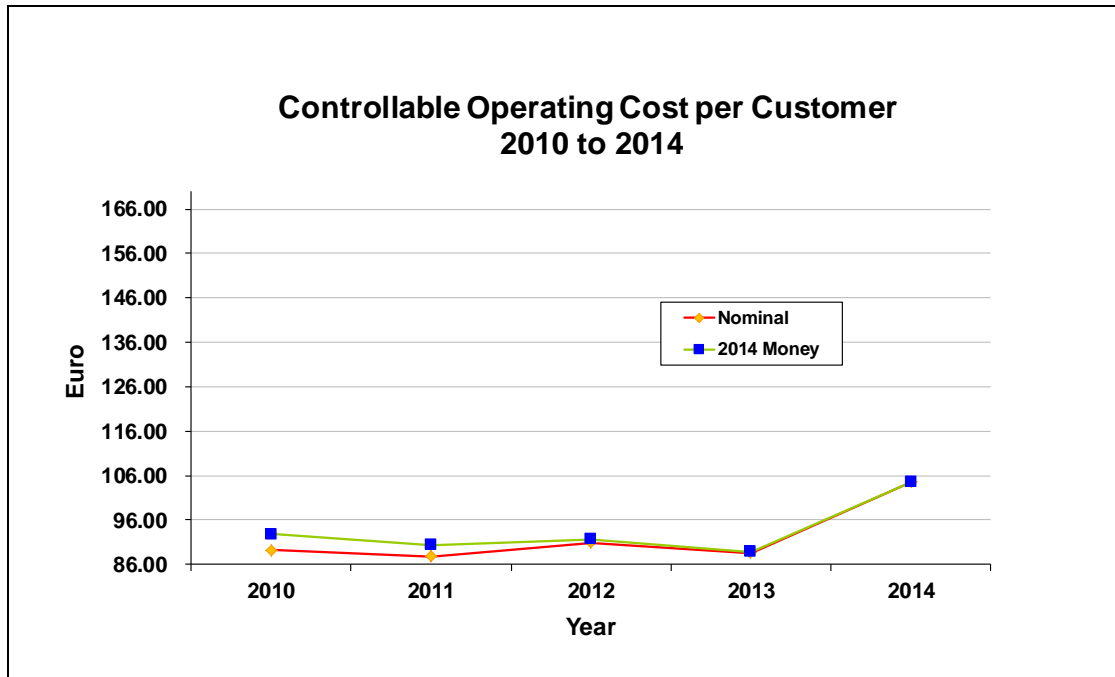
The aim is to keep these controllable costs as low as possible whilst maintaining the operational integrity and efficiency of the networks. Graphs 3 and 4 below show the real and nominal values of Controllable Operating Costs per Unit Distributed and per Customer.



**Graph 3**

<sup>8</sup> Storm Darwin fault maintenance cost of approximately €31m included

As can be seen from Graph 3, the Controllable Operating Cost per Unit Distributed increased in both real terms and nominal terms in 2014, when compared to 2013. Fault maintenance was unusually high in 2014. This was mainly due to the exceptional impact of storm Darwin, at a cost of approximately €31m. This increase in fault maintenance would not be expected in future years.



**Graph 4**

Graph 4 shows that in 2014 the Controllable Operating Cost per Customer increased in both nominal and real terms. Similar to Graph 3, fault maintenance was unusually high in 2014. This was mainly due to the exceptional impact of storm Darwin, at a cost of approximately €31m. This increase in fault maintenance would not be expected in future years.

### **Transmission OPEX**

Transmission operating costs totalled €52.5m against an allowance of €48m in 2014.

## 5. Achievement of Capital Programme

ESB Networks has agreed an extensive capital programme with the CER for completion over the 5 year PR3 period 2011-2015. Our investment activities in 2014 focused on renewing and extending the distribution and transmission systems to provide Ireland with an improved electricity network. The major programmes of work undertaken over the past year include:

- The continuation of both the urban and rural low voltage refurbishment programmes.
- The continuation of the nine-year refurbishment programme for the Medium Voltage (MV) networks.
- MV substation replacement – this programme focused on those subs which contained obsolete components.
- Continued extensive load reinforcement programme to reinforce existing networks and improve the capacity of the distribution system.
- Continued conversion of the 10kV network to 20kV operation.
- Extensive uprating and refurbishment of transmission lines on 163km of 110kV and 64km of 220kV conductor.
- New Generation Connections
  - Kill Hill 110kV Wind Farm Energised (58.5MW)
  - Bruckana 38kV Wind Farm Energised (39.6MW) – 110kV works at Lisheen 110kV station.
- South West Stations
  - New 220kV GIS stations
    - Civil and electrical works complete
    - Final commissioning commenced in two substations at Ballyvouskill and Kilpaddocke.
- The installation design process commenced on the Kilpaddocke – Moneypoint 220kV cable.
- New 110kV circuits
  - Binbane – Letterkenny 69km
  - Cloghboola – Trien 4.8km Overhead Line and 9km Cable.
- Significant progress was made on the new GIS stations at Carrickmines (220kV), Finglas (110kV) and Ardnacrusha (110kV), while Moneypoint (400kV) civil works are approaching completion.
- A large volume of refurbishment and uprating works on transmission assets has been completed in existing stations including busbar uprates, bay uprates and asset replacement.

In 2014, the number of Gate 3 distribution applicants accepting their offers stood at 115. These numbers translate into 1,830MW of acceptances. By the end of 2014, there were only three Gate 3 distribution offers remaining to be accepted, amounting to a total capacity 165.2MW.

In addition to the above, the table below reports on ESB Networks' delivery of the transmission and distribution capital programmes.

**Table 5 – Progress of Capital Programmes**

Description of Criteria	Value	Progress Comment
<b>Total Planned Capital Investment Programme</b> <sup>910</sup>		
Distribution Capital Investment Programme achieved to date (%) (i.e. percentage of allowed capital spent)	35.6%	Distribution CapEx completed in 2014 was 8.7%, the allowed target was 22.2%
Transmission Capital Investment Programme achieved to date (%)	54.7%	Transmission CapEx completed in 2014 was 14.3%, the allowed target was 22%
<b>LV Rural Refurbishment Programme</b>		
LV Groups completed (no.)	3,695	
<b>LV Urban Refurbishment Programme</b>		
Spans completed (no.)	2,377	
<b>HV Cable Replacement Programme</b>		
38kV pre-1945 paper insulated cable (km)	0	
<b>Distribution Capacity added</b>		
Increase in 110kV/38kV capacity	31.5MVA	The capacity added includes load reinforcement only and excludes any additional temporary capacity and Wind Farm capacity
Increase in 110kV/MV capacity	60MVA	
Increase in 38kV/MV capacity	63MVA	

<sup>9</sup> Based on HICP (Harmonised Indices of Consumer Prices)

<sup>10</sup> Please note that comparisons are against the original allowance of €4.2bn. The overall programme was revised downwards from €4.2bn to €2.4bn for PR3, as agreed with the CER

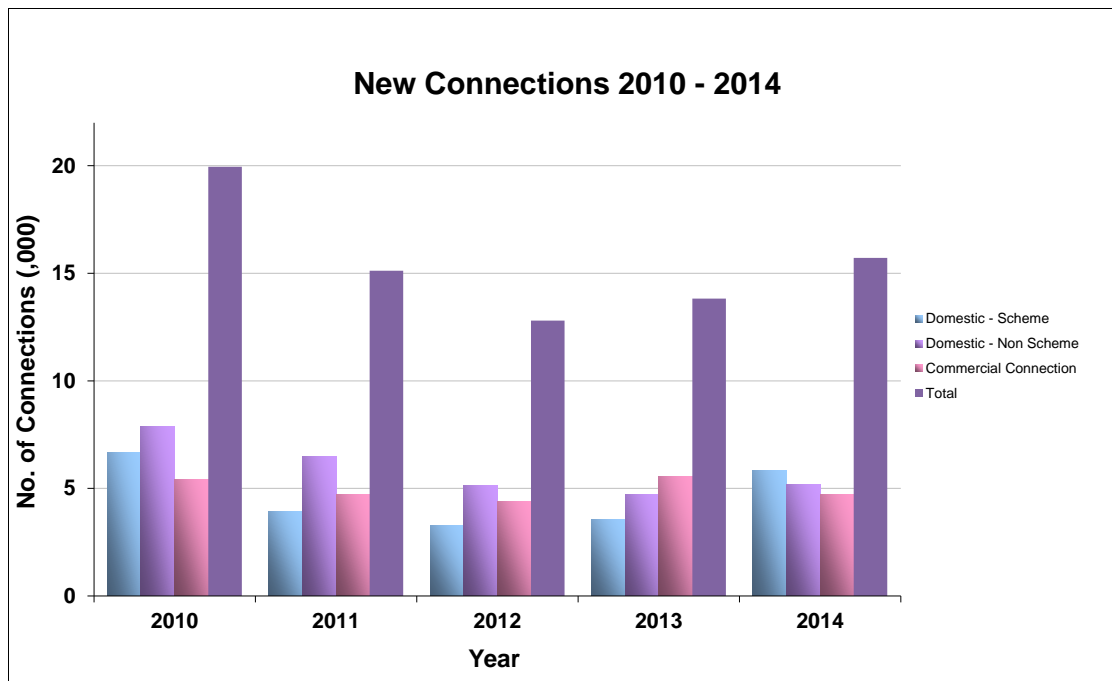
Description of Criteria	Value	Progress Comment
<b>Transmission New Build</b> 400kV/220kV Transformers	1	Dunstown Station
<b>Busbar Uprates</b> Full Bus-Bar Uprates	4	Ennis, Navan, Sligo and Bellacorrick Stations
<b>220kV Line Uprates/Refurbishment</b>	64km	Extensive uprating and refurbishment of transmission lines on 163km of 110kV and 64km of 220kV conductor
<b>110kV Line Uprates/Refurbishment</b>	163km	As per above

Description of Criteria	Value	Progress Comment
<b>38kV Overhead Line Refurbishment</b>	126km	Distribution line refurbishment continued on 126km of 38kV conductor
<b>MV Substations Asset Replacement</b>		
1. Oil-filled Switchgear Subs (No.)	12	
2. Cast Resin Kiosks (RGB12 and Magnefix)	92	
3. Open Cubicle Switchgear	36	
<b>20kV Conversion (km)</b>	567	Continued conversion of the 10kV network to 20kV operation

Description of Criteria	Value	Progress Comment
<b>Embedded Wind Generation Connected to the Distribution System in 2014</b>		
Wind Farms Connected	10	The Total Capacity of all Wind Farms that are Connected to the Distribution System is 1,308 MW.
Total MW Connected	141.2	

## New Connections

In 2014, a total of 15,713 new connections to the distribution system were completed by ESB Networks. This equates to an overall increase of 13.6% in the volume of new connections when compared with the total of 13,828 in 2013. This reflects an upturn in the economy in the past two years.



Graph 5

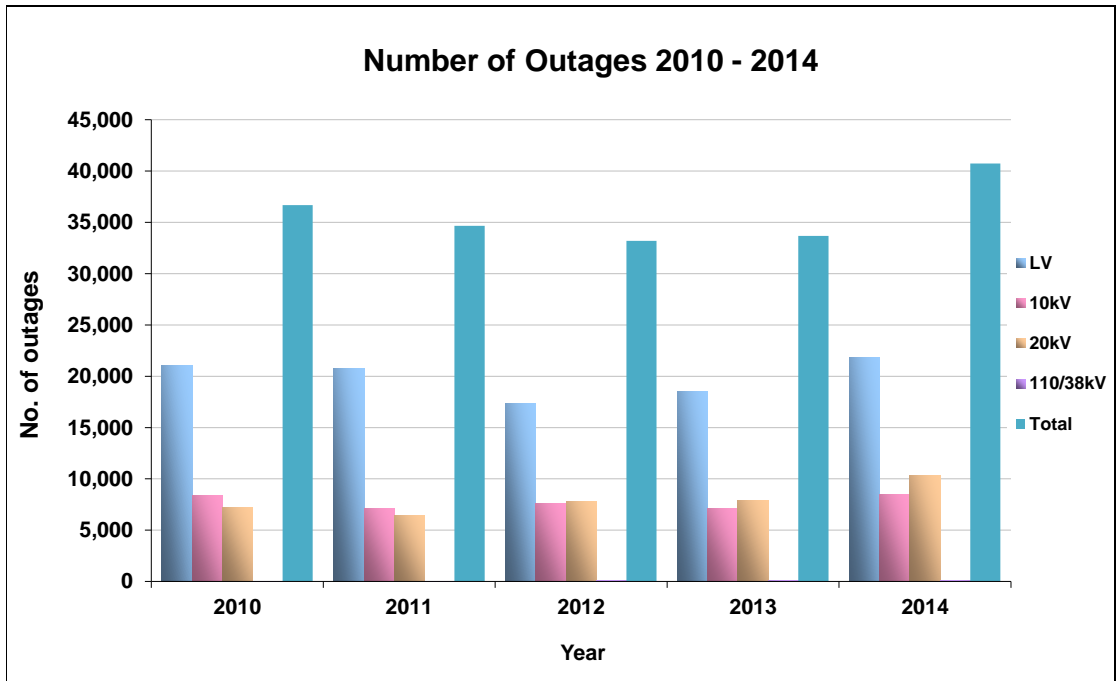
## 6. Supply Quality and Reliability

Supply reliability is an essential aspect of distribution system performance. The number of interruptions of supply is given in Table 6. Graph 6 shows the trend over the past 5 years.

**Table 6 – Number of Outages<sup>11</sup> by Connection Voltage**

Description of criteria			Value
Voltage	Unplanned	Planned	Total
LV	19,137	2,708	21,845
10kV	5,245	3,222	8,467
20kV	7,999	2,338	10,337
110kV/38kV	83	0	83
Unknown	4	5	9
<b>Total (excl. Storm Days and Major Renewable Programmes)</b>	<b>32,468</b>	<b>8,273</b>	<b>40,741</b>

<sup>11</sup> Short interruptions lasting less than three minutes are not included. In some fault situations, there can be a number of temporary supply restorations followed by an interruption before supply is permanently restored. One interruption per customer affected is recorded in these situations. The figures do not include customer outages which resulted from problems on the transmission system, e.g. operation of under-frequency relays.



**Graph 6**

The impact of outages on customers across the entire distribution system is measured by two parameters; average number of interruptions per customer connected in the year (CI) and the average number of minutes without supply per customer connected in the year (CML). The CER has set targets for Customer Interruptions (CI) and Customer Minutes Lost (CML) for the period 2011-2015. As the effects of severe weather can cause wide variations in these measures and are outside ESB Networks control, there is an adjustment for storms days.



**Table 7 – Customer Minutes Lost (CML) and Customer Interruptions (CI)**

Description of criteria	Value					
	Customer Minutes Lost					
	Unplanned Target	Unplanned Actual	Planned Target	Planned Actual	Total Target	Total Actual
<b>Total (including Major Renewal Programmes)</b>	<b>72.2</b>	<b>97.67</b>	<b>55.8</b>	<b>49.78</b>	<b>128.0</b>	<b>147.45</b>
Major Renewal Programmes				19.40		19.40
Total (excluding Major Renewal Programmes)		97.67		30.38		128.05
Customer Interruptions						
	Unplanned Target	Unplanned Actual	Planned Target	Planned Actual	Total Target	Total Actual
<b>Total (including Major Renewal Programmes)</b>	<b>1.096</b>	<b>1.2444</b>	<b>0.226</b>	<b>0.1795</b>	<b>1.322</b>	<b>1.4239</b>
Major Renewal Programmes				0.0544		0.0544
Total (excluding Major Renewal Programmes)		1.2444		0.1251		1.3695

Table 7 shows CML and CI for 2014 broken down between unplanned and planned. Major Renewal Programmes are programmes such as the LV overhead network refurbishment programme where planned outages are required to carry out the work. The planned CI and CML arising from these programmes in a given year depends on the nature and volumes of renewal works carried out in that year. While the CI and CML incurred on these programmes is reckonable in the incentive / penalty scheme, it is useful to show the performance excluding Major Renewal Programmes as that reflects the underlying trend in continuity performance.

Table 8 shows the number of storm days in 2014 and details of the weather on those days.

**Table 8 – Storm Days**

Description of criteria
<p><b>Storms and exceptional events</b></p> <p>Number of storm days: 14</p>
<p><b>Description of storm days</b></p>
<p><b>9<sup>th</sup> October 2014</b></p> <p>The distribution network was subjected to lightning strikes. There were 18,335 customers affected with the South-East being the worst affected area</p>
<p><b>8<sup>th</sup> October 2014</b></p> <p>The 38kV distribution network was subjected to lightning strikes. There were 86,364 customers affected with the South and South-East being the worst affected areas</p>
<p><b>6<sup>th</sup> October 2014</b></p> <p>Rain and wind with gusts exceeding 50knots or 93kmh and the distribution network was also subjected to lightning strikes. There were 55,434 customers affected with the East being the worst affected area</p>
<p><b>31<sup>st</sup> March 2014</b></p> <p>The distribution network was subjected to lightning strikes. There were 34,423 customers affected with the North-West being the worst affected area</p>
<p><b>17<sup>th</sup> February 2014</b></p> <p>There were 30,127 customers affected with the South and South East being the worst affected areas</p>
<p><b>16<sup>th</sup> February 2014</b></p> <p>Rain and wind with gusts exceeding 45knots or 85kmh. There were 17,355 customers affected with the South and South East being the worst affected areas</p>

<b>15<sup>th</sup> February 2014</b>	
Rain and wind with gusts exceeding 50knots or 93kmh. There were 32,901 customers affected with the south west being the worst affected area	
<b>14<sup>th</sup> February 2014</b>	
Rain and wind with gusts exceeding 56knots or 104kmh. There were 96,171 customers affected with the South, South-West and West being the worst affected areas	
<b>13<sup>th</sup> February 2014</b>	
Rain and wind with gusts exceeding 53knots or 100kmh. There were 188,640 customers affected with the South, South-West and West being the worst affected areas	
<b>12<sup>th</sup> February 2014</b>	
Rain and wind with gusts exceeding 84knots or 156kmh. There were 657,352 customers affected with the South, South-West and West being the worst affected areas	
<b>4<sup>th</sup> February 2014</b>	
Rain and wind with gusts exceeding 64knots or 119kmh. There were 57,864 customers affected with the South and South-West being the worst affected areas	
<b>1<sup>st</sup> February 2014</b>	
Rain and wind with gusts exceeding 68knots or 126kmh. There were 56,215 customers affected with the South and South-West being the worst affected areas	
<b>6<sup>th</sup> January 2014</b>	
The distribution network was subjected to both, lightning strikes and rain and wind with gusts exceeding 60knots or 112kmh. There were 46,503 customers affected with the South-West and West being the worst affected areas	
<b>3<sup>rd</sup> January 2014</b>	
The distribution network was subjected to both, lightning strikes and rain and wind with gusts exceeding 72knots or 134kmh. There were 43,852 customers affected with the West and South-East being the worst affected areas	
<b>Total number of customers affected by storm days in 2014:</b>	<b>1,419,536</b>

**Table 9 – Faults Exceeding 4 Hours Duration and Voltage Quality Problems**

Description of criteria	2013	2014
<b>Additional items</b>		
Percentage of faults exceeding 4 hours restoration time	26%	39%
Customer reports of problems relating to Voltage Quality	1,564	1,326
Verified problems relating to Voltage Quality	437	333

The percentage of faults exceeding 4 hours restoration time was 39% in 2014.

The number of customers that reported problems relating to voltage quality was 1,326. These requests are not categorised as service complaints but are essentially requests for a technical investigation of possible voltage problems.

The number of verified problems relating to supply quality was 333. These are situations where the voltage at the customer's location was verified to be outside the standard levels.

## **Operations**

During 2014, SCADA (Supervisory Control and Data Acquisition) installation was completed in three 220kV stations and five 110kV stations, along with a further seven 38kV stations, one MV station and three Wind Farm Power Stations across the country. Also, eighty-three distribution automation devices were built on the SCADA system in 2014. This quantity incorporates Nulec Reclosers, Soules, Voltage Regulators, IFT's and 38kV Switching devices.

There were eighty-five Operational Incidents while operating the network. Continued progress was made on the prototype testing of alternative methods of treating the neutral on the 20kV system. The Arc Suppressed System installed in Baltinglass, Birr and Saggart was made operational during 2014. Station works in Gurranbane and Creagh were completed and will be made live upon completion of line re-insulation, scheduled for 2015.

Design is currently underway to complete two of the remaining four PR3 MV Arc Suppression Coil Schemes, with long lead-in time materials ordered for:

- Baltinglass Upgrade
- Kilmacthomas upgrade

The remaining two planned Arc Suppression Coil Schemes for PR3 are:

- Kilcullen
- Ballinderry

## **7. Safety**

### **Fatalities and Serious Injuries**

There was one electrical fatality due to contact with ESB Networks infrastructure during 2014. There was one fatality from contact with electricity on the customers' side of the meter during 2014. The total number of electrical fatalities for the 10 year period from 2005-2014 was 24, with 50% of these occurring on the ESB Networks side of the meter. This figure is a reduction of 3 when compared with the preceding 10 year period from 2004-2013, where there was a total of 27 electrical fatalities, where 15 of these fatalities occurred on the ESB Networks side of the meter.

### **Public Safety Programme 2014**

Throughout 2014, ESB Networks continued to meet its obligations and responsibilities for public safety by implementing the ESB Networks' Public Safety Plan (2013-2015) with initiatives aimed at the "at-risk" groups, including construction, farming, leisure and children.

Public safety education programmes for children included both school visits and working with Agriaware in the promotion of a Farm Safety Maze at the National Ploughing Championships.

A new farm safety guidelines booklet, entitled 'Farm Safely with Electricity', was developed by ESB Networks and launched at the National Ploughing Championships by Minister Coveney, in the presence of all the main farming stakeholders. The booklet, a key part of ESB Networks' commitment to public safety, was distributed widely and has been promoted strongly across different media platforms.

Public safety information was also provided through the National Contact Centre, with literature and safety leaflets distributed in response to specific requests.

### **Public Safety Information Campaigns 2014**

- Advertising in the national press and industry-sector publications to promote awareness of the dangers from contact with ESB Networks electricity infrastructure.
- Broadcasting of full range of public safety radio advertisements on local and national radio stations
- Specific media campaign during Storm Darwin to inform the public of important safety precautions with extensive use of Twitter.
- TV advertising in the national agricultural livestock marts aimed at the farming community.
- High profile presence at the National Ploughing Championships in September 2014 to raise awareness of electrical safety.

### Network Refurbishment Programme (PR3)

Delivery of the network refurbishment programmes continued to have a significant and beneficial impact on public safety.

### Advanced Driver Training

Delivery of the “Advanced Driver Training” programme, which is a risk-based response to the potential risk associated with driving for work, continued to be rolled out to all staff during 2014.

### Involvement with the HSA

ESB Networks continued their support of the KEEP SAFE programme for 5th and 6th class primary school children in association with the Health and Safety Authority and other national bodies, coordinated by Junior Achievement Ireland.

### Dangerous Occurrences

Table 10 reports on the number of dangerous occurrences associated with ESB Networks’ infrastructure during 2014. These figures are broken down as third party damages<sup>12</sup> and non-third party notifiable fault incidents<sup>13</sup>.

**Table 10. Dangerous Occurrences**

Description of criteria	2013	2014
<b>Number of safety incidents</b>		
3 <sup>rd</sup> Party plant damages (excluding underground cable dig-ins)	1,214	1,085
3 <sup>rd</sup> Party plant damages caused by underground cable dig-ins	980	1,043
Non 3 <sup>rd</sup> party – MV and 38kV notifiable fault incidents (line drops & reduced clearances)	245	273
Non 3 <sup>rd</sup> party – LV notifiable fault incidents (line drops & reduced clearances)	1,410	1,909

12 Third party damages are incidents where third parties cause damage to the networks infrastructure. These are broken down into incidents that involve damage to underground electricity cables termed ‘dig-ins’ and incidents that cause damage to other plant such as overhead lines, minipillars and substations.

13 Non-third party notifiable fault incidents are principally incidents on the overhead lines networks where an overhead line conductor / wire falls e.g. in stormy conditions or due to corrosion or other plant item failure.

## **Theft and Break-Ins to Substations**

The issue of metal theft including unauthorised break-ins to ESB Networks' substations poses a significant safety risk to the individuals involved. This mirrors the overall national trend of increased metal theft over the last number of years. In addition to the public safety risks associated with this activity there are also significant additional negative impacts and costs arising from increased security measures, damage to equipment, environmental damage and clean-up costs due to oil spillages and disruption to work programmes. ESB Networks continues to monitor closely the level of security incidents to assess the level of risk pertaining to various substation sites. This also assists in deciding on required mitigation measures for same, such as mobile monitoring systems, fixed CCTV or power fences in the more strategically important sites.

## **8. Sustainability**

### **ESB Networks Strategy and Responding to Change**

As set out in the ESB Networks strategy document 'ESB Networks 2027 - Lighting the way to a better energy future', which was published and launched in 2014, the vision for ESB Networks is to become a world class sustainable networks business. This will be achieved by the delivery of infrastructure and services that support national economic growth and sustainability targets and business and value growth underpinned by excellence in safety, service, asset management and people development.

ESB Networks are at the forefront in defining the Smart Networks of the future and this is being achieved through research initiatives and participation in national and international collaborative alignments. In 2014, ESB Networks continued its effort to deliver the sustainable network of the future and some of the highlights are as follows:

#### **R&D Projects**

The year 2014 saw the continuation of a wide range of R&D projects within the Smart Networks function. These projects included FINESCE, PlanGridEV and evolVDSO – all of which were part funded by the European Commission under the FP7 framework. ESB Networks was also part of the Irish led consortium which obtained €12m in grant funding under the Horizon 2020 funding framework. The 'RealValue' project will implement an end-to-end domestic Demand Response solution and ESB Networks will assess the impact of Demand Response on the low and medium voltage networks and utilise a software tool to minimise any detrimental impact on our networks.

January 2014 saw the publication and launch of our Networks 2027 strategy document which sets out our vision of the electricity networks and outlines the actions we are taking to implement this vision.

In November 2014, the European Commission awarded the North Atlantic Green Zone (NAGZ) project €32m in grant funding under the Connecting Europe Facility (CEF) mechanism to implement an infrastructural scale Smart Grid in the North West of Ireland. This is a cross border project and all DSOs and TSOs are members of the project consortium which is being led by ESB Networks. This project will commence in 2015 pending the agreement of the regulatory funding in Northern Ireland.



ESB Networks continues to engage in beneficial collaborative R&D projects to further our understanding of the communications and IT requirements for the future grid. ESB Networks is also currently inputting into the development of a strategy for the future role of a Distribution System Operator (DSO) in the European context.

### **Carbon Reduction**

During 2014 there was steady progress on delivering on our internal carbon reduction targets.

Compared to 2013, energy usage in building kWhs were down by 3.3% and fuel consumption was down 10% due to ongoing “Green Fleet” initiatives such as vehicle rationalisation and improved utilisation, replacement of older vehicles with newer more fuel efficient ones, use of biofuel, and advances in the operation of our Fleet Management System (FMS) in ESB Networks fleet.

At the end of 2014, a 32% reduction in our carbon footprint had been achieved against the 2006 baseline. This is a further 2% reduction on last year’s achievement.

### **Environment**

ESB Networks is committed to operating to the highest environmental standards as part of its strategy “ESB Networks 2027 Lighting the way to a better energy future”.

During 2014, ESB Networks successfully retained its external accreditation to the International Standard for Environment Management Systems - ISO14001:2004.

## **Renewable Generation**

In 2014, the number of Gate 3 distribution applicants accepting their offers stood at 115. These numbers translate into 1,830MW of acceptances. By the end of 2014, there were only three Gate 3 distribution offers remaining to be accepted, amounting to a total capacity 165.2MW. One Gate 3 offer has lapsed since being issued in 2014, comprising 27.5 MW in total.

In 2014, six Gate 3 applicants (125.6MW) were added to the distribution system.

Approximately 60% of Gate 3 developers have opted to build their shallow connections contestably.

## **Offers Issued Update**

- **Modifications**

In addition to completing the Gate 3 offer programme, there were 29 distribution offers issued during 2014. These consisted of Gate 2, Gate 3 and Non-GPA type offers.

- **Non-GPA**

In addition, furthermore to above, under the 2009 CER direction CER/09/099, 23 distribution offers issued to generators outside the Group Processing Approach during 2014.

The total amount of distribution offers issued during 2014 was 52.

## **Energised and Connected Projects**

In 2014, a total of 143.8MW of generation was added to the distribution system. Wind equated to 141.2MW of this figure. This brings the total generation added to the distribution system to 1,582MW, by the end of 2014, where 1,308MW accounted for Wind.

## 9. Service Level Agreements

There are three market roles that ESB Networks performs that are central to supporting a fully open market; these roles are the Meter Registration System Operator (MRSO), Data Collector and Meter Operator. These functions involve daily processes to support the market. The processes are detailed in a suite of documents referred to as the Market Process Documents (MPDs).

Service Level Agreements (SLA) set out the target service levels that ESB Networks will operate to in providing market roles to all market participants. The format of the SLA's, in general terms, outline the time frames within which suppliers can expect the required transactions to have been completed in response to the supplier message. These market messages and related SLA's are based on the agreed processes approved by CER. They set out performance standards which ESB Networks must strive to achieve and report on, as laid down in condition 13 of the DSO Licence. As provided in that condition, the standards and/or targets of performance may be determined by the CER from time to time.

### SLA Report

The Service Level Agreement (SLA) Report in the following tables contain the complete set of results for 2014. The report provides a description of each SLA and the measure against which its level of performance is reported. It is inevitable that a small number of exceptional transactions will require special manual handling for a number of reasons. To accommodate such cases the performance targets are set below 100%, in most cases it is 95%. The target timeline for those transactions that do exceed the SLA timeline is set at twice the SLA timeline.

The actual performance is measured as the percentage of transactions that were completed within the agreed SLA timeline and the percentage completed within twice the SLA timeline during 2014. The target for the number of transactions to be completed within the SLA timeline for all SLA's with the exception of 14A and 14B (these SLA's relate to NQH Meter Reading) is set at 95%. The target levels for 14A and 14B are stated in the comments column of Table 13. The comments column is used to provide an explanation of the reason why the actual performance has not reached the set performance target within the SLA timeline.

## Performance against SLA's

There are a total of 44 SLA's in place. The performance of each SLA is shown in Table 11, 12, 13, 14, 15 and 16 below.

**Table 11 – Change of Supplier**

Market Processes		Standard Approval Timelines (SLA)	Actual Performance		Comments
Description	No.		Within SLA Timeline	Within Twice Timeline	
Change of Supplier (NQH)	1A	Validate within 5 days	100.00%	100.00%	
	1B	Using customer read – Complete within 3 days	99.84%	99.91%	System error resulted in workflow stall or move-in / move-out failure
	1B	Using special read – Complete within 10 days	90.00%	100.00%	Unable to gain access or inadequate contact details
	1B	Using scheduled read – Complete within 3 days	89.05%	91.39%	System error with NQH MD sites not billing correctly which resulted in the associated messages having to be manually populated
Change of Supplier (QH)	2A	Validate within 5 days	100.00%	100.00%	
	2B	Complete within 3 days	99.47%	99.73%	SLA report is based on month-end data, this resulted in some Change of Supplier requests being received late in the month
Change of Supplier Cancellation	3A	Validate cancellation within 5 days	99.99%	99.99%	System error resulted in workflow stall
	3B	Complete cancellation within 5 days	99.84%	99.86%	System error resulted in workflow stall

**Table 12 – New Connections and Connection Agreements**

Market Processes		Standard Approval Timelines (SLA)	Actual Performance		Comments
Description	No.		Within SLA Timeline	Within Twice Timeline	
<b>New Connection and registration with supplier (NQH)</b>	<b>5A</b>	Prepare Quote – Within 7 working days where no site visit required. Within 15 working days where site visit required	98.19%	100%	Calculations for this SLA were based on records for quotations issued within customer charter guidelines
	<b>5B</b>	Complete connection – Within 10 working days of receipt of ETCL certificate.	99.40%	100%	As per 5A
	<b>5C</b>	Data Processing – Issue details to Supplier within 10 Days	98.90%	99.70%	There are small numbers of orders outstanding due to incorrect MCC, COS changes, conflicting devices and some unreturned paper service orders.
<b>New Connection and registration with supplier (QH)</b>	<b>6A</b>	Prepare Quote – Within 7 working days where no site visit required. Within 15 working days where site visit required	98.19%	100%	Calculations for this SLA were based on records for quotations issued within customer charter guidelines
	<b>6B</b>	Complete Connection – Within 10 working days of receipt of ETCL certificate.	99.40%	100%	As per 6A
	<b>6C</b>	Data Processing – Issue details to Supplier within 10 Days	98.90%	99.70%	There are small numbers of orders outstanding due to incorrect MCC, COS changes, conflicting devices and some unreturned paper service orders.
<b>Change to meter point characteristics</b>	<b>8A</b>	Prepare quote – Within 7 working days where no site visit required. Within 15 working days where site visit required	98.19%	100%	Calculations for this SLA were based on records for quotations issued within customer charter guidelines
	<b>8B</b>	Complete change – Within 10 working days of receipt of ETCL certificate.	99.40%	100%	As per 8A
	<b>8C</b>	Process Change – Issue details to Supplier within 10 Days	98.90%	99.70%	There are small numbers of orders outstanding due to incorrect MCC, COS changes, conflicting devices and some unreturned paper service orders.

**Table 13 – Meter Works**

Market Processes		Standard Approval timelines (SLA)	Actual Performance		Comments
Description	No.		Within SLA timeline	Within twice timeline	
De-energisation of Meter Point	9A	De-energise within 5 days	87.64%	93.05%	High level of no access on de-energisation calls. Increase in staff safety incidents - training carried out and Suppliers engaged.
	9B	Issue Meter details to Supplier within 10 Days	98.75%	99.93%	
Re-energisation of Meter Point	10A	Re-energise within 5 days	98.24%	99.28%	
	10B	Issue Meter details to Supplier within 10 Days	99.29%	99.90%	
Change of Meter Configuration	11A	Reconfigure within 5 days after the receipt and validation of Supplier request	92.35%	96.65%	
	11B	Process data within 10 days	99.47%	99.85%	
Meter Problems and Reports of damage	12A	Repair or replace faulty meter within 5 days	71.84%	83.86%	
	12B	When a faulty meter is Repaired or Replaced – Process Meter Data within 5 days	98.87%	99.46%	

**Table 14 – Meter Data**

Market Processes		Standard Approval timelines (SLA)	Actual Performance		Comments
Description	No.		Within SLA timeline	Within twice timeline	
NQH Meter Reading	14A	Scheduled Read – Distribution of Reads to Suppliers within 7 workdays	99.87%	99.93%	
	14A	2 Scheduled reading visits per annum	100.00%	N/A	Within SLA timeline target is 100%
	14A	4 Scheduled reading visits per annum	99.00%	N/A	Within SLA timeline target is 97%.
	14A	Actual reads for scheduled meter reading visits	84.00%	N/A	Within SLA timeline target is 80%
	14A	Actual reads for scheduled MD meter reads	84.00%	N/A	
	14A	One actual read per annum	98.00%	N/A	Within SLA timeline target is 98.00%
	14B	No Consecutive Block Estimations	99.70%	N/A	Within SLA timeline target is 98.40%.
	14B	No Consecutive MD Block Estimations	100.00%	N/A	Within SLA timeline target is 100%
	14C	Out of Cycle Customer Read – Readings processed within 3 workdays	97.37%	99.06%	
QH Data Collection	15A	D+4 QH data- Send to SEM-O / Suppliers in 1 workday	100.00%	100.00%	
	15B	QH Actual Data	On D+4		Within 10 days
		Send to suppliers within 4 and 10 days**	98.60%	98.90%	**SEM Timeline
Request for Special Read	18A	Site visit by 7 days	77.00%	87.00%	Accurate contact details were not provided for many customers
	18B	Issue of Meter details within 3 Days	75.00%	84.00%	As per 18A

**Table 15 – Miscellaneous MRSO Processes**

Market Processes		Standard Approval timelines (SLA)	Actual Performance		Comments
Description	No.		Within SLA timeline	Within twice timeline	
Data Aggregation	16	Issue of aggregated data to SEM-O/TSO/Suppliers and Generators within 5 workdays	100%	100%	
Change of SSAC	20	Complete process in 3 workdays	100%	100%	
De-registration	21	Auto Completion within 5 workdays	99.98%	99.99%	System error resulted in workflow stall or move-in move-out failure
		Manual Completion within 10 workdays	100%	100%	

**Table 16 – Change of Customer**

Market Processes		Standard Approval timelines (SLA)	Actual Performance		Comments
Description	No.		Within SLA timeline	Within twice timeline	
Change Customer Details	24	Complete within 5 days	99.50%	100.00%	
Change of Legal Entity	25	Complete within 5 days	99.90%	99.90%	



## 10. Compliance with licence requirements

### Annual Compliance Report

The Compliance Officer for ESB Networks submits a report on compliance to the CER each year and the Compliance Report was submitted to CER in March 2014.

### Records and Reporting

The following tables serve to illustrate the sections of this report that meet the reporting requirements contained in the DSO and TAO Licences.

**Table 17 – DSO Licence Compliance Matrix**

Clause in DSO Licence		Requirement	Performance Report Reference
Title	No.		Section
Relevant Assets	5.1	Submit a register of all relevant assets to CER annually	10
Performance of DSO's Business	13.4	Report annually on performance	Entire report
	13.5	Publication of criteria	2
Records and Reporting	17.1	Maintain a record of its general operation under Conditions 7, 8, 9, 13, 14 and 15:	
		7. Theft of Electricity	10
		8. Meter Point Registration Service	10
		9. Provision of Metering and Data Services	10
		13. Performance Reporting	Entire Report
		14. Access to Land or Premises	10
		15. Customer Service Code and Complaints Handling Procedure	3.2 3.3
	17.3	Report annually on performance	Entire report
17.4	Publication of report	2.1	
17.5	Presented in a standard form to be approved by the CER	Entire Report	

**Table 18 – TAO Licence Compliance Matrix**

Clause in TAO Licence		Requirement	Performance Report Reference
Title	No.		Section
Performance of TAO's Business	11	Report annually on performance	Entire report

## **Market Services**

Condition 17 of the DSO Licence states that the Licensee shall keep a record of its general operation of the arrangements mentioned in Conditions 7, 8, 9, 13, 14 and 15 and, if the CER so directs in writing, of its operation of any particular cases specified, or of classes specified, by the CER. Condition 7, 8 and 9 relate to Market Services and the records of their general operation that are kept by ESB Networks are as follows:

### **Condition 7: Detection and Prevention of Theft of Electricity**

In compliance with licence Condition 7 records were kept in respect of incidents where theft of electricity was suspected or where there was interference with metering equipment and that these incidents were reported to the supplier.

### **Condition 8: Meter Point Registration Service**

In compliance with licence Condition 8 records were kept in respect of the Meter Point Registration Service i.e. of MPRN, identity of the supplier, meter class, premises address and other information required for change of supplier.

### **Condition 9: Provision of Metering and Data Services**

Salient business and transaction data were maintained on the services provided under Condition 9 of DSO Licence Provision of Metering and Data Services. These services include, provision of metering equipment, installation, commissioning, testing, repair and maintenance of metering equipment and data collection.

## **Access to Land and/or Premises**

Pursuant to Condition 14 of the DSO Licence and as required in Condition 17, the following are the general principles and procedures that ESB Networks will follow in respect of any person acting on its behalf who requires access to land and/or premises for the purposes set out in this licence:

- All such employees or representatives acting on behalf of ESB Networks will possess the skills necessary to perform the duties for which access is required and will be appropriate persons to visit and enter the land and/or premises;
- Both employees and representatives of ESB Networks will be in possession of identity cards that clearly identify them as such. These identifications will be available to the persons occupying the land and/or premises. All vehicles arriving on these sites will either carry the full ESB Networks livery or be clearly identified as working on behalf of ESB Networks;
- ESB Networks will ensure that any person visiting land and/or premises on its behalf will be able to inform final customers connected to the Electricity System, on request, of a contact point for help and advice they may require in relation to the distribution of electricity.

Records are maintained of individual training, levels of approval to carry out work and the issue of ID cards. The contact number of the customer contact centre is available via briefing material to all team members and is printed on ESB Networks vehicles.

## Register of Assets

Table 19. Register of Distribution System Assets at end of 2014

Asset	Units	Volume
<b>220kV</b>		
220kV Substations	Sub	3
220/110kV Transformer Capacity	MVA	2,250
<b>110kV</b>		
110kV Overhead Lines	km	392
110kV Underground Cable	km	184
110/38kV Substations	Sub	84
110kV/MV Substations	Sub	28
110/38kV Transformer Capacity	MVA	6,387
110kV/MV Transformer Capacity	MVA	1,405
<b>38kV</b>		
38kV Overhead Lines	km	5,730
38kV Underground Cable	km	960
38kV Substations	Sub	432
38kV Transformer Capacity	MVA	5,190
<b>MV</b>		
20kV 3-ph Overhead Lines	km	14,800
20kV 1-ph Overhead Lines	km	29,700
10kV 3-ph Overhead Lines	km	12,700
10kV 1-ph Overhead Lines	km	25,600
20kV Underground Cable	km	600
10kV Underground Cable	km	8,926
3-ph Pole mounted Transformers	Trafo	20,127
1-ph Pole mounted Transformers	Trafo	214,737
MV Ground Mounted Substations	Sub	19,874
<b>LV</b>		
LV 3-ph Overhead Lines	km	4,136
LV 1-ph Overhead Lines	km	53,962
LV Underground Cable	km	12,362
Mini-Pillars	MP	169,416