December 2000

Information and Incentives Project

Draft Regulatory Instructions and Guidance

Table of contents

1. Introduction

1.1 These Regulatory Instructions and Guidance (RIGs) have been produced in accordance with the IIP licence condition that will be included in the Public Electricity Suppliers (PES) licence. A revised draft of the licence condition is set out in Appendix 1. This takes into account responses to the September 2000 IIP final proposals document on output measures and monitoring delivery between reviews. The requirement to provide information under this licence condition only applies to the distribution businesses of the PESs. The RIGs are applicable for the reporting year commencing 1 April 2001.

1.2 Distribution businesses will be expected to have the necessary measurement systems in place by April 2002 for delivering the required levels of accuracy. This means that for the reporting year beginning April 2001, distribution businesses will be permitted to report to a level of accuracy that may be less than the required level. During the course of 2001/02, Ofgem will want to understand what changes distribution businesses have made, or are planning to make, to improve their measurement systems, including the timetable for doing so.

1.3 The RIGs include definitions and related instructions and guidance for collating "Specified Information" as defined in the IIP licence condition. Specified Information includes:

- the number and duration of interruptions to supply that last for three minutes or longer – to be reported to a minimum level of accuracy specified by Ofgem;
- the number of short interruptions to supply (those that last up to three minutes);
- information for measuring the speed of telephone response provided by the distribution businesses and information on customers that contact the distribution businesses – to be used to assess the speed and quality of telephone response provided by distribution businesses; and

- information on the number and cause of faults on distribution business assets and an accompanying narrative – to be used for monitoring the medium term performance of the distribution network.

1.4 Where possible Ofgem has specified consistent definitions across the distribution businesses. Ofgem is also putting in place an audit framework that will assess whether the information that is collected meets the required levels of accuracy and is consistent with the definitions contained in the RIGs.

1.5 The provision of accurate and consistent information is important as it reduces the level of regulatory uncertainty that may otherwise exist if the information that is collected from distribution businesses is of a poor quality or not in a comparable form. The benefits of improvements in the quality of information should be realised by all those with an interest in the regulation of distribution businesses, including customers and their representatives, providers of capital finance, the regulator and the companies themselves.

1.6 The IIP licence condition sets out in detail the process for making changes to the RIGs. Ofgem recognises that any significant changes to the scope or form of the information that it requests from the distribution businesses could not only increase the regulatory burden but also the perception of regulatory risk. It is Ofgem's intention to change the scope and form of the information it requests as infrequently as possible, consistent with Ofgem carrying out its duties under the Electricity Act 1989 and the Utilities Act 2000.

Structure of this document

1.7 The RIGs covers four main areas:

- definitions, instructions and guidance for collating information on:
  - the number and duration of interruptions to supply and short interruptions – (Section 2);
  - assessing the speed and quality of telephone response – (Section 3); and
  - monitoring medium term performance – (Section 4);

- specification of the required levels of accuracy for reporting – Ofgem has specified minimum levels of accuracy that must be achieved for the reporting of the number and duration of interruptions to supply (Section 5);

- reporting arrangements – an outline of the reporting arrangements for IIP; (Section 6); and

- IIP licence condition – a revised draft of the IIP licence condition (Appendix 1).

Responding to this document

1.8 Any comments on the draft RIGs should be received by 31 January 2001. Ofgem will consider the views of respondents in drawing up the final version which will be published in February - to apply for the reporting year beginning 1 April. Any comments should be sent to:

Mr Cemil Altin
Ofgem
9 Millbank
London
SW1P 3GE

Email: cemil.altin@ofgem.gov.uk
Tel: 020 79017401
Fax: 020 79017075

1.9 Ofgem would like to publish responses by placing them in its library. Please mark your response as confidential if you do not want it to be placed in Ofgem's library. Any comments on this document or the IIP more generally should, in the first instance, be directed to Cemil Altin.

2. Definitions, instructions and guidance for reporting the number and duration of interruptions to supply

Introduction

2.1 This section sets out definitions and related instructions and guidance for the reporting of:

- the number of interruptions to supply;
- the duration of interruptions to supply; and
- short interruptions to supply.

Information sources

2.2 Distribution businesses use the National Fault and Interruption Reporting Scheme (NaFIRS) which is administered by the Electricity Association (EA) - or an equivalent system - to collect information on the number and duration of interruptions to supply. As part of the work that Ofgem has undertaken on the IIP it is clear that there are inconsistencies across companies and over time in the way in which information is collated under NaFIRS. For the purpose of reporting under the IIP, companies must use the definitions contained in this document. This will help ensure consistency in reporting to Ofgem. The information that is submitted by the distribution businesses will be audited against the definitions and required levels of accuracy in the RIGs and the IIP licence condition.

Definitions

2.3 Set out below are key definitions to be applied for reporting on the number and duration of interruptions to supply and short interruptions to supply. Further instructions and guidance are provided in paragraph 2.4 to 2.43.

Key definitions

- **the number of interruptions to supply** – the number of customers interrupted per 100 connected customers per year, where an interruption of supply to customer(s) lasts for three minutes or longer, calculated as:

$$\frac{\text{The sum of the number of customers interrupted for all incidents} * 100}{\text{The number of connected customers}}$$

- **the duration of interruptions to supply** - average customer minutes lost per connected customer per year, where an interruption of supply to customer(s) lasts for three minutes or longer, calculated as:

$$\frac{\text{The sum of the customer minutes lost for all restoration stages for all incidents}}{\text{The number of connected customers}}$$

- **the number of short interruptions to supply** – the number of customers interrupted by a short interruption per 100 connected customers per year, where supply is restored following the interruption within a period of three minutes, calculated as:

$$\frac{\text{The sum of the number of customers interrupted by short interruptions} * 100}{\text{The number of connected customers}}$$

Other definitions

- **customer** - any energised or de-energised metered connection point supplied from the distribution network as identified from Metering Point Administration Numbers (MPANs). Only one customer shall be identified at each connection point.

- **total number of connected customers** – the total number of connected customers is defined as the total number of customers connected to the company's distribution network as at 30 September in the reporting year;

- **interruption** – the loss of supply of electricity to one or more customers due to an incident (defined below) but excluding voltage quality abnormalities, including dips, spikes or harmonics;

- **re-interruption** – the loss of supply of electricity to one or more customers during the course of an incident where those same customers have experienced an interruption during previous restoration stages of the same incident;

- **incident** – any occurrence on the distribution system or other electricity supply system, which involves a physical break in the circuit upstream of the customers interrupted (or circuit affected), for three minutes or longer, due to automatic or manual operation of switchgear or fusegear, or due to any other open circuit condition, which:

    - results in an interruption of supply to customer(s); or

    - prevents a circuit or item of equipment from carrying normal load current or being able to withstand "through fault current";

- **incident start** - the date and time of the incident is the earlier of:

    - the time at which customers lose normal supply (i.e. there is an interruption to supply); or

    - the time at which the relevant circuit is automatically or deliberately disconnected.

- **incident completion** - an incident is considered complete when supplies are restored to all customers involved in the incident and all the equipment involved in the incident is returned to service or permanently disconnected from the network. This does not require the restoration of the normal network configuration and open points. Where an incident

start and completion time/date spans two reporting years, it should be allocated to the year in which the incident started;

- **restoration stage** - a restoration stage is defined as a stage of an incident, at the end of which supply to some or all customer(s) are restored and/or a circuit or part of a circuit is re-energised, excluding any restoration/re-energisation which is immediately followed by a circuit trip;

- **restoration stage (for calculating the duration of interruptions to supply)** – temporary restorations to supply of less than 3 minutes should be included in calculating the duration of interruptions to supply;

- **end of restoration stage** – is the time at which customer(s) have their supply restored and/or a circuit or part of a circuit is re-energised;

- **start of restoration stage** – is the time at which supply to customer(s) is interrupted and/or a circuit or part of a circuit is de-energised;

- **customers interrupted in a restoration stage** - is defined as the customers connected to that part of the distribution network restored in the restoration stage, including temporary restorations e.g. using mobile generators;

- **incident on the distribution system** – any incident (excluding pre-arranged incidents) arising on the distribution system, where the distribution system is defined as consisting (wholly or mainly) of electric lines owned or operated by an authorised distributor and used for the distribution of electricity from grid supply points or generation sets or other entry points (and bulk supply points in Scotland) to the points of delivery to customers or authorised electricity operators or transmission company;

- **pre-arranged incident** – any pre-arranged incident where statutory notification has been given to all customers affected at least 48 hours before the commencement of the earliest interruption;

- **incident on other systems** – any incident arising on other electricity supply systems, including:

- National Grid Company or Transmission Company (in Scotland);
- embedded generators; and
- any other connected systems – which should be identified.

Instructions and guidance

Customers

2.4 Only one customer should be identified at each connection point. This means aggregating multiple MPANs that may be associated with a single connection point due to the type of tariff and/or metering arrangements.

2.5 Only one "tariff" per premise to be counted (i.e. MPANs in respect of additional concurrent meters should be ignored). Some companies do not identify primary MPANs and are investigating the possibility of identifying these customers from meter timeswitch codes within the Metering Point Registration System (MPRS). The method adopted by companies to identify customers from MPANs shall be agreed with Ofgem. Ofgem will want to ensure that, as far as possible, distribution businesses use a consistent method for identifying customers.

Incident

2.6 In addition to failures of power equipment, other occurrences classed as an incident include:

- the urgent unprogrammed isolation of any circuit or item of equipment, energised at power system voltage, for reasons other than routine maintenance;
- failures of non-system equipment (e.g. pilot cables, oil and gas alarms, voltage control equipment etc) which result in the disconnection of equipment energised at power system voltage;
- incorrect operations of protection equipment which result in the interruption of a circuit energised at power system voltage;

- failures to operate by protection equipment. This includes incidents where the main protection fails to operate and a fault clearance is initiated by back-up protection or protection at another point on the network;

- any interruption to supplies to customers caused by incidents on systems owned by the National Grid Company/Transmission Company (in Scotland), other distribution businesses, embedded generators, or arising from loss of supply to these systems; and

- any interruption to supplies to customers from a pre-arranged incident. A pre-arranged incident which requires a number of switching operations involving the loss of supply to customers should be treated as a single incident provided that the outage times are within the period stated on the statutory notice.

2.7 Occurrences that would not lead to an incident are as follows:

- maintenance outages and malfunctions of non-system equipment (e.g. pilot cables, etc) which do not result in the disconnection of equipment energised at power system voltage;

- any incident involving equipment beyond the boundary of the distribution system e.g. on customers' equipment or another authorised electricity operator's system, which is cleared by the correct operation of the distribution company's protection and which does not interrupt the supply to the customer(s) of the distribution business; and

- pre-arranged incidents affecting single customers for the purposes of meter changes, voltage standardisation, maintenance of service cables and the distribution businesses' protective devices.

Date and time of incident

2.8 In the case of third party damage or decay and deterioration, the date and time of the incident is not necessarily that at which the damage or defect occurred, but the time at which customers were affected or the circuit disconnected.

2.9 Because of the way an incident is defined, the date and time of an incident is always the same as the date and time of the first interruption for an incident that leads to an interruption to supply.

2.10 When the actual date and time of incident is not known from alarms or reports from operators, a best estimate should be made based on all information available, taking into account reports from customers and circumstances such as weather and operating conditions.

2.11 Where the date and time of incident is based on the time the incident was reported (i.e. report received time), it shall be based on the earliest report of the incident. Some companies wait for a second report before initiating action but for the purposes of reporting under the IIP the date and time of the incident shall be based on the first report received.

Report received time

2.12 This is the time that the company first becomes aware of an incident and may be the time at which:

- a customer (or other persons) first contacted the distribution business to advise of no-supply or of some suspected abnormality;
- an alarm was received by the distribution business indicating an abnormality; or
- a distribution business employee or agent identified the existence of an abnormality.

2.13 The report received time will normally equal or follow the date and time of the first interruption (e.g. when an alarm is received from supervisory equipment or where no-supply calls from customers are the first indication received of an abnormality). The report received time may precede the time of the first interruption only when deliberate disconnection is later carried out by the distribution business or in the case of some "arc suppression coil" held faults.

Date and time of completion of the incident

2.14 An incident is complete when supplies are restored to all customers involved in the incident and all the equipment involved in the incident is returned to service or permanently disconnected from the network.

2.15 Repair times are often longer than restoration times and a new incident must be raised (and should be reported) in the event that a further interruption is required to carry out repairs after all customers involved have been permanently restored from the network for a period of 3 hours or longer. This excludes restorations by mobile generators or temporary connections.

2.16 A further incident must be reported if another incident occurs which affects part of the network and/or customers already affected by an incident. Two or more incidents may then be active concurrently and customer effects shall be calculated accordingly (i.e. on an additive basis).

Number of customers interrupted by an incident

2.17 The number of customers interrupted for single phase and two phase LV faults may be calculated on a pro-rata basis, i.e. 1/3 or 2/3 of the total number of customers connected to the LV circuit, or part of circuit, affected. Customers with a three phase LV supply are considered to be interrupted when the supply is interrupted to one or more of the three phases. Individual customer phase connections do not need to be identified.

2.18 Where a connectivity model is in place it should be used consistently to derive the number of customers interrupted on a particular element of the network modelled. Where the section of network involved is a subset of a modelled network element, then the number of customers interrupted may be derived from records or from information available on site.

2.19 Customers involved for HV, EHV and 132 kV should take account of the real time changes to 132 kV/EHV/HV network configuration during restoration, which may be identified from a connectivity model.

Restoration stage

2.20 The number and duration of interruptions to supply are significantly influenced by the number of restoration stages adopted/reported by distribution businesses and IT systems and proformas used should not limit the number of restoration stages reported.

Date and time of restoration stages

2.21 The date and time of interruption and the date and time of restoration must be recorded for each restoration stage. The numbers of customers involved and the elapsed time in each restoration stage will be used to calculate the number and duration of interruptions to supply.

2.22 The restoration stage data should be recorded such that it is possible to identify and count the customer minutes supplied during temporary restorations of three minutes or more and discount those of less than three minutes.

Customers involved in a restoration stage

2.23 Customers involved in each restoration stage may be identified from a connectivity model in which customers are individually linked with the section of network to which they are connected.

Disaggregation of incidents

2.24 It is necessary to collect information on the number and duration of interruptions to supply at a disaggregated level. This will help in comparing performance across distribution businesses and could be used for making adjustments within the incentive scheme. There are three types of disaggregation required, namely:

- by source – customer effects arising from:
  - incidents on the distribution system;
  - pre-arranged incidents; and
  - incidents on other connected systems.

- by voltage level – incidents arising on the distribution system should be disaggregated by voltage level; and
- by HV circuit – as part of the process of normalising for network differences across distribution businesses Ofgem intends to classify HV circuits into categories. The number and duration of interruptions to supply need to be reported by HV circuit and according to the classification supplied by Ofgem.

Disaggregation by "source"

2.25 In addition to reporting of incidents arising on the distribution system the number and duration of interruptions to supply arising from the following categories should be separately identified:

- pre–arranged incidents;
- incidents caused by faults on other systems, including:
  - National Grid Company or Transmission Company (in Scotland);
  - embedded generators; and
  - any other connected systems – which should be identified.

Disaggregation by voltage levels

2.26 All incidents arising on the distribution system (excluding pre-arranged incidents) should be disaggregated in the following classifications, which are defined in more detail below:

- 132 kV;
- Extra High Voltage (EHV) excluding 22 kV;
- High Voltage (HV) and 22 kV;
- Low Voltage (LV); and

- LV Services.

2.27 For the purpose of reporting under the IIP voltage/system boundaries are defined as follows:

132 kV boundary

2.28 The "lower boundary" of the 132 kV system should be taken as the supply terminals of the distribution business's customers supplied at 132 kV or the load side terminals of switchgear controlling the secondary (lower voltage) side of 132 kV transformers. If no switchgear exists between the secondary side of the 132 kV transformer and the primary side of an EHV or HV system transformer then the "lower boundary" should be taken as the secondary side terminals of the 132 kV transformer. The lower voltage busbars and their protection equipment at 132 kV/lower voltage substations are NOT included.

2.29 The "upper boundary" of the 132 kV system should be taken as the point at which ownership of the 132 kV circuit or plant becomes the responsibility of the distribution business.

EHV and HV boundaries

2.30 For the purpose of IIP an EHV system is one which operates at a nominal voltage greater than 22 kV, but less than 132 kV. An HV system is one which operates at a nominal voltage in excess of 1000 V and up to and including 22 kV.

2.31 The "lower boundary" of HV and EHV systems should, for the purposes of reporting under IIP, be taken as the supply terminals of consumers supplied at HV or EHV, and in other situations as the load side terminals of the protection equipment connected to the secondary side (low voltage) of distribution transformers. The "upper boundary" should in general be taken as the busbar side of lower voltage switchgear of transformers whose primary voltage is 132 kV or above and whose secondary voltage is EHV or HV. If no secondary switchgear exists, the "upper boundary" should be taken as the secondary side terminals of the transformer; faults on the system connected to the secondary voltage terminals of the transformer should be reported as EHV/HV faults and not as 132 kV faults.

2.32 In practice companies will normally report and disaggregate by each discrete voltage level in order to report to the above classifications.

LV boundaries

2.33 For the purposes of reporting under the IIP, a LV system is one that operates at a nominal voltage of 1000 V or less.

2.34 The upper boundary should be taken as the load side terminals of the protection equipment connected to the secondary side (low voltage) of distribution transformers, the lower boundary being the distribution businesses side terminals of the distribution business's own protective devices to customer (e.g. cut-outs or fuses). For the purposes of incident reporting the LV system, this excludes cut outs, metering equipment, time-switches and associated wiring.

LV Services

2.35 Within the LV classification above, LV Services are defined according to the function and size of the main equipment involved in the Incident as follows:

- cables, overhead lines or surface wiring having a copper equivalent cross sectional area of normally less than 50 $mm^{2,}$ which provide the final connection to customer(s).

- cables, overhead lines or surface wiring of any size which provide the final connection to a single customer.

2.36 Note that incidents on meters, time-switches and cutouts, including cut out fuse operations are excluded from reporting under the IIP and the definition of LV Services therefore excludes this equipment.

Disaggregation by HV circuit

2.37 As part of the process of normalising for network differences across distribution businesses Ofgem intends to classify HV circuits into categories. The number and duration of interruptions to supply need to be reported by HV circuit (including 22 kV) and according to the classification supplied by Ofgem. This level of reporting only relates to customer affects arising as a result of a fault on

the HV system, although the number and duration of interruptions to supply should be reported by voltage according to the instructions above.

2.38 Ofgem intends, as part of a separate exercise, to request information from distribution businesses in order to undertake a classification of HV circuits into distinct categories. Ofgem will undertake this work before the beginning of the reporting year on 1 April 2001. Ofgem would expect to re-classify HV circuits at the time of the next distribution price control review in 2004, and thereafter at each subsequent review.

Short interruptions

2.39 The measure adopted for monitoring short interruptions includes the customer effects of the short interruptions and includes the following occurrences, which should be separately identified, measured and reported:

- interruptions, of less than three minutes, due to an occurrence on the distribution network where some or all the customers involved are successfully restored by automatic switching within three minutes of the first interruption;

- interruptions, of less than three minutes, due to an occurrence on the distribution network where some or all the customers involved are successfully restored by manual or remote control switching within three minutes of the first interruption. This definition includes only the initial restoration. Further short interruptions during the subsequent stages of fault sectionalising are not included.

- interruptions, of less than three minutes, due to other occurrences such as deliberate disconnection for operational or emergency reasons. The definition excludes interruptions due to incidents on the networks of NGC/Transmission company (in Scotland) other network operators and embedded generators.

2.40 In the case of multi-shot reclosing schemes, only one short interruption is to be counted where the successful restoration is achieved by a sequence of multiple operations, where these are identifiable. Where the sequence of operations is not identifiable, then a simple count of all operations of automatic reclosing

device(s) is to be used, excluding those operations are not associated with short interruptions e.g. those associated with other incidents or routine switching;

2.41 Customers interrupted should be identified in the same way as for "normal" incidents (i.e. those in excess of 3 minutes duration).

2.42 The date and time of short interruptions is not required. Where short interruptions are identified from a periodic count of circuit breaker operations the counters shall be read annually between 1 January and 31 March to ensure a reasonable approximation to a 12-month total.

Updating the connectivity model

2.43 The connectivity model should be kept up to date within 14 days of any change to the network or customer connections and the numbers of customers in the model should be reconciled with the total number of connected customers on a monthly basis.

3. Definitions, instructions and guidance for reporting on speed and quality of telephone response

Introduction

3.1 This section sets out definitions and related instructions and guidance to be used for the reporting of:

- information on the speed of telephone response;
- and the information which Ofgem, and its appointed agents, require for undertaking a customer survey of customers' views of the response that they receive when they contact the distribution business by telephone.

Speed of telephone response

Key definitions

Definition of the specified contact lines

3.2 It is necessary to define the population of telephone calls from which the speed of response will be measured and that distribution businesses must report on. This population includes calls received:

- to the freephone power outage telephone number (or its equivalent) operated by the distribution business or by its appointed agents (or contractors);
- to the security and safety enquiry service telephone number (if different from the above) operated by the distribution business or by its appointed agents (or contractors);
- by contractors and/or agents of the distribution business who act as an overflow or crisis management facility during peak periods; and
- temporary customer contact points established to meet a specific need e.g. to handle calls about a local interruptions incident. Temporary customer contact points are defined as those telephone numbers

(separate from the normal lines defined above) set up to deal with a single topic which will be closed down once the issue has been resolved. Companies are asked to use the commentary to identify the number and the duration that each temporary customer contact point was in place.

Definitions of required information

3.3 Companies are asked to provide the following information:

- **total calls on the specified contact lines** - this is defined as the number of incoming telephone calls to the lines specified above as the population, including calls which receive an engaged tone;
- **calls received -** this is defined as the number of calls which enter the company's telephony system and receive a ringing tone. Calls which receive an engaged tone are not to be counted as calls received. These calls will be collected within the "all lines busy" indicator.
- **calls answered (number and speed) –** this is defined as the number of calls answered by a telephone operator and the speed with which the call was answered.

Other definitions

Time bands

3.4 Distribution businesses are required to measure speed of response according to the guidance set out above in three time bands:

- calls answered up to and including 15 seconds;
- calls between 15 and 30 seconds; and
- calls answered in more than 30 seconds.

3.5 Companies unable to provide directly information on calls answered within each of the required time bands may interpolate using an appropriate method. Details must be given in the commentary section.

Average response time

3.6 Distribution businesses are required to provide the average response time based on the guidance set out above.

3.7 Where direct measurement is not possible, sampling or interpolation of data may be used in deriving average response times.

Instructions and guidance

Configuration of telephony systems

3.8 Companies are asked to describe the number and configuration of incoming lines linked to lines identified under the population above - a schematic diagram could be included where this would be helpful in understanding how the telephony system is set up.

Required information

The following guidance should be applied:

- **recorded messages (queuing) -** some distribution businesses employ a recorded message to advise customers that they are in a queue. Some recorded messages trip-in within a few seconds of the ringing tone being heard by the customer while others are activated later. Under such situations the time to answer the call is defined/measures as the time that the customer first hears the ringing tone to the time that the company agent answers the call or that an automated message is provided, **not** from or to the time that the customer hears the recorded message informing them they are in a queue. If customers hang up during or after hearing the recorded message advising them that they are in a queue or before the company agent answers the call then such calls are to be reported as abandoned.

- **automated messages –** some distribution businesses use a recorded message, e.g. via a 'message manager' or equivalent system, to relay information to customers on incidents. In such circumstances each call

to the automated recorded message is to be counted as a "*call answered*" once the automatic message trips in.

- **answering machines -** where companies use an answering machine during busy periods and ask customers to leave their name, telephone number and reference numbers such calls are to be classed as *Calls answered*. The response time for calls to answering machines is to be taken from the customer first hearing the ringing tone to the completion of the company's recorded message. Companies should state in the commentary their policy for responding to customer messages left on answering machines. If customers hang up before completion of the full-recorded message then such calls are to be reported as a *call abandoned.*

- **touch-tone telephones -** some companies employ a system that asks customers with touch tone telephones to press specified buttons to access specific company information. The time to answer the call is taken from the time that the customer **either** hears the first ringing tone, **or** (where there is no ringing tone) from the commencement of the interactive voice response message to the time that the company agent answers the call or an automated message trips in. If customers hang up during or after hearing the message but before pressing appropriate buttons, then such calls are to be reported as "*calls abandoned"*.

Average speed of response

3.9 The following guidance should be used:

- **direct measurement -** companies using direct measurement/calculation of average response time should describe the method used in the commentary section, e.g. summation of wait times for all calls divided by the total number of calls received and answered, or some other appropriate method.

3.10 Where direct measurement is not possible, the following guidance should be applied:

- **sampling -** companies using sampling techniques should describe in the commentary section the sampling framework, including frequency, timing and number of calls in the sample.

- **interpolation -** companies using interpolation of data should describe in the commentary section the system used, e.g. multiplying the percentage of calls in each timeband by the mid-point of the timeband, or some other method.

All lines busy

3.11 The *all lines busy* indicator measures the degree of difficulty customers experience in obtaining a ringing tone from the customer contact number/enquiry service.

3.12 Total time equates to the *actual* time that the customer contact number/enquiry service is physically unable to take additional calls. If there are, for example, two different telephone numbers, the total time is the mean of the total time for each number weighted by the number of lines involved.

3.13 Total time is not to be calculated by multiplying the time all lines were busy by the number of lines linked to the specified lines.

3.14 Companies unable to measure the *actual time* when all lines are busy but that are able to measure the number of *occasions* when all lines are busy should report this in the commentary. Companies are to assign a value for each occasion (i.e. multiply each occasion by a specified number of seconds). Ofgem will specify this value. Its initial view is that this should be in the range 1 to 5 seconds.

Calls abandoned

3.15 Companies using recorded messages, answering machines, touch-tone telephones should take particular care when reporting against this indicator. All calls abandoned, including those abandoned within ten seconds, are to be reported. Calls should be reported as *calls abandoned* whenever the following circumstances apply:

- **recorded messages (queuing) -** where callers hang up during or after hearing the recorded message advising them that they are in a queue, and before the company answers the call;

- **answering machines -** where callers hang up before the completion of the company's recorded message; and

- **touch tone telephones -** where callers hang up during or after hearing the message but before pressing appropriate buttons.

Additional commentary

3.16 Companies should use the commentary to provide the following information:

- companies currently unable to report against all or part of an indicator should comment on the reason why and when they consider they may be able to provide relevant data;

- companies should identify their method for reporting. To include information on (where applicable):

  - temporary customer contact points;

  - the policy for responding to customer messages left on answer machines;

  - time bands - method for interpolation;

  - average time - method for direct measurement, sampling and interpolation;

  - all lines busy – number of occasions all lines were busy, nominal value methodology; and

  - the statistical significance for sampling techniques used.

Quality of telephone response

3.17 Ofgem intends to undertake a survey of the views of customers of the telephone response that they receive when they contact the distribution business. To undertake this survey, Ofgem (and/or its appointed agents) will require information on the customers that have contacted the distribution businesses by telephone.

3.18 Distribution businesses are required to provide the following information:

- the telephone number of each person (or customer contact) telephoning either of the following enquiry services/contact lines whose call is answered by a telephone operator (i.e. excluding automated responses):
  - to the freephone power outage telephone number (or its equivalent) operated by the distribution business or by its appointed agents (or contractors);
  - to the security and safety enquiry service telephone number (if different from the above) operated by the distribution business or by its appointed agents (or contractors).
- together with, if known the name of that person, whether that person is a domestic or non-domestic customer and when they telephoned the distribution business.

Customer contact

3.19 In some instances customer information may not be available to the distribution business, including where customers:

- choose to withhold their telephone number; and
- refuse to partake in a survey.

3.20 In such circumstances the distribution business is not required to submit the customer information outlined above.

Method of data provision

3.21 The reporting timescales for the provision of this information is set out in Section 6. There are three broad ways of distribution businesses providing the information that is required, namely:

- distribution businesses provide Ofgem (and/or its appointed agents) with details of all applicable customer contact details, from which Ofgem (or its appointed agents) would derive a random sample;
- distribution businesses undertake the sampling such that a specified number of customer contact details are provided to Ofgem (and/or its appointed agents). Distribution businesses would be expected to explain to Ofgem how the sampling process was undertaken; and
- distribution businesses undertake the sampling such that a specified number of customer contact details are provided to Ofgem (and/or its appointed agents). Ofgem would provide distribution businesses with detailed guidance on how the sampling process should be undertaken.

3.22 It will be necessary to consider the balance between achieving consistency and the level of work that may be required to be undertaken by Ofgem (or its appointed agents) and the distribution businesses in deciding which of these methods is appropriate.

4. Definitions, instructions and guidance for monitoring medium term performance

Introduction

4.1 This section sets out definitions and related instructions and guidance for the reporting of information that Ofgem requires for monitoring the medium term performance of distribution networks. Ofgem intends to collect information in three main areas, namely:

- an analysis of fault rates and causes on electrical line and plant and equipment;
- a supporting narrative provided by the distribution businesses; and
- activity based information on the number of "units" replaced of an asset that has been identified as poorly performing and is subject of a replacement programme.

4.2 At future price control reviews Ofgem will want to understand the impact of future expenditure (both capital and operating) on medium term performance.

4.3 Further details on the information required for monitoring medium term performance can be found in PB Power's report, which has been published on Ofgem's website (www.ofgem.gov.uk). This document contains the relevant equipment and fault codes used in NaFIRS for ease of reference. For the purpose of reporting under the IIP a number of the equipment and fault codes have been aggregated and should be reported as single figures, as outlined below.

Definitions

Reliability

4.4 Ofgem intends to monitor the reliability (fault rates) of electrical line and plant and fault causes. For the purposes of this document reliability is defined as the number of reportable incidents affecting line, plant and equipment expressed as:

- number of faults per unit length of circuit classification (per 100 km); and
- number of faults per unit of equipment classification (per 1000 units).

Required information

4.5 Distribution businesses are required for the first year of reporting under the IIP (2001/02) to provide a historical analysis of reliability and fault causes according to the classifications outlined below. This should be provided for the last five years including for the reporting year beginning in April 2001. This will ensure that there is a track record of information going forward for assessing reliability. Distribution businesses must also explain any changes that have been made to definitions or measurement over this period that have led to a change in the reported figures.

132 kV, 66 kV and 33 kV circuits and equipment

4.6 Fault rates need to be provided according to the following breakdown, i.e. 3 trend lines per voltage level.

132 kV	66 kV	33 kV
Total (all faults)	Total (all faults)	Total (all faults)
Overhead lines	Overhead lines	Overhead lines
Underground cables	Underground cables	Underground cables

High voltage

4.7 All voltage levels should be aggregated from 1 kV to 22 kV, i.e. there should be a single classification for HV. This should be disaggregated by overhead line and underground cable. The number of faults on each should be reported according to the following classification, i.e. 5 trend lines for each.

Overhead line plus pole mounted/structure mounted switchgear	Underground cable (i.e. power cables)
Total	Total
Weather and environment	Weather and environment
Company causes and faulty manufactures	Company causes and faulty manufactures
Unknown or unclassified causes	Unknown or unclassified causes
Third party and other network faults	Third party and other network faults

Switchgear and protection systems

4.8 Distribution businesses should include NaFIRS defined (or equivalent) pole mounted automatic circuit breakers and sectionalisers and all ground mounted switchgear and protection and control equipment classifications. Distribution businesses should report all faults for this aggregated category, i.e. one trend line.

Transformers and reactors

4.9 Distribution businesses should report all faults for both transformers and reactors, disaggregated by ground and pole mounted equipment, i.e. 2 trend lines.

Low Voltage

4.10 For LV overhead mains reporting, overhead mains surface wiring mains and switchgear/fusegear should be aggregated. For LV underground mains also include switchgear/fusegear. Fault rates should be reported by cause as follows, i.e. five trend lines each.

LV Overhead line	LV Underground main
Total	Total
Weather and environment	Weather and environment
Company causes and faulty manufactures	Company causes and faulty manufactures
Unknown or unclassified causes	Unknown or unclassified causes
Third party and other network faults	Third party and other network faults

Services – overhead and underground

4.11 All service equipment should be aggregated and the total number of faults reported, not disaggregated by cause, i.e. one trend line.

Instructions and guidance

4.12 In addition the following points need to be considered:

- the fault cause classifications outlined above are those used in NaFIRS. Where distribution businesses do not report to NaFIRS, equivalent classifications will need to be agreed with Ofgem;
- no distinction is made between damage and non-damage faults; and
- volumes of circuits should be based on a count at 30 September in the relevant reporting year.

Narrative

4.13 In addition to the reporting of reliability distribution businesses are also required to provide a supporting narrative. Ofgem would like to publish the narrative in some form. This may help spread best practice through the industry. If distribution businesses feel that any section of the narrative should remain

confidential it should be clearly marked and an explanation provided as to why this is the case. Particular issues that the narrative should cover, include:

- a statement detailing the asset management strategy of the distribution business in respect of distribution assets – to include a commentary on the broad philosophy and overall approach that is adopted with respect to asset management. This should include a statement on the method for monitoring condition and performance of assets and for predicting future condition and performance of assets and therefore replacement and improvement programmes;

- an explanation of the trends observable from the reliability information (and on outputs included in the incentive scheme) – to include actions taken to improve reliability or identify and replace/improve deteriorating assets, together with a prediction of future performance;

- any additional condition monitoring and post fault investigation carried out by the distribution business to identify the condition of assets, and the prognosis for future condition and performance. This should include any predicative indicators that have been developed for predicting future performance of assets;

- for 132 kV and EHV assets a supporting narrative which explains the asset management approach for these assets, together with details of condition monitoring or condition assessment, with a more detailed report on problem assets or groups of assets; and

- an explanation of any adverse trends in reliability of sub-asset groups not covered by the RIGs but collected by the distribution business as part of its asset management strategy.

Activity based information

4.14 Companies are required to provide some activity based information such as on the number of different assets types replaced, repaired, refurbished or maintained during the year. This should initially focus on assets which a distribution business has identified as a poorly performing asset type and has put

in place a replacement or refurbishment programme. The distribution business should provide the number and proportion of the poorly performing asset replaced, repaired, refurbished or maintained each year and how this compares with the envisaged programme. Any differences to the envisaged programme should be explained.

4.15 As explained above, Ofgem will want to understand the impact of future expenditure (both capital and operating) on medium term performance, including on replacement or refurbishment programmes across a range of assets, and not solely those that are poorly performing.

5. Required level of accuracy for reporting

Introduction

5.1 Ofgem is concerned that information used to implement the incentive scheme is sufficiently accurate to enable comparisons to be made over time and if appropriate between companies and that required accuracy levels are those specified by the regulator. Ofgem has specified minimum levels of accuracy for the reporting of:

- the number of interruptions to supply – at both the Low Voltage (LV) level and overall level; and
- the duration of interruptions to supply – at both the Low Voltage (LV) level and company level.

5.2 In addition distribution businesses are also required to specify the accuracy of the reporting of short interruptions to supply.

Required levels of accuracy – number and duration of interruptions to supply

5.3 The table below specifies the minimum levels of accuracy required for the reporting of the number and duration of interruptions to supply. Distribution businesses are required to meet *both* the overall and LV minimum levels of accuracy. Meeting one of the required levels of accuracy is not sufficient to satisfy the requirements set out in the IIP licence condition.

	Minimum overall level of accuracy (%)	Minimum level of accuracy for LV system interruptions(%)
Number of interruptions to supply	95	90
Duration of interruptions to supply	95	90

Reporting of accuracy levels for short interruptions to supply

5.4 Distribution businesses are required to indicate the estimated accuracy of the reporting of short interruptions to supply. This should include a statement on

the method used to measure short interruptions and how the estimated level of accuracy has been assessed. Ofgem's appointed auditors will provide an assessment on the reasonableness of the estimated accuracy and whether in their view it has been achieved.

6. Reporting arrangements

Introduction

6.1 It is important that robust arrangements are put in place for the reporting of information required under the IIP. This section sets out the reporting arrangements that Ofgem expects to apply in each reporting year. Different arrangements apply for the provision of customer details for the purpose of undertaking a survey of customers' views of the telephone response they receive when they contact the distribution business.

Ofgem's role in reporting and the requirements on distribution businesses

6.2 The normal reporting year for the provision of information required under the IIP will be from 1 April to 31 March of the relevant year. Ofgem will publish the RIGs to apply to the reporting year at least one month in advance, and normally in January. At the same time Ofgem will also provide the distribution businesses with standard templates that should be used for reporting of IIP information. Any changes to the RIGs will have been consulted on for a period of time in accordance with the IIP licence condition. Where these changes do not relate to information included in the incentive scheme or the required level of accuracy the consultation period will be not less than 28 days.

6.3 Distribution businesses will normally be required to provide the information required under the IIP at the end of the reporting year and by no later than 30 April. Once the distribution businesses have submitted the information to Ofgem, it would expect its appointed auditors to undertake an audit over the course of May to June.

6.4 For the first year of reporting under the IIP (2001/02) Ofgem intends to collect information relating to the number and duration of interruptions to supply part way through the year.

6.5 The table below sets out the key dates for a normal IIP reporting year.

Date	Output
November	Ofgem publishes draft version of RIGs for consultation.
January	Ofgem publsihes final version of RIGs and templates to apply for next reporting year.
1 April	Reporting year begins.
31 March	Reporting year ends.
30 April	Distribution businesses submit IIP information to Ofgem.
May to July	Ofgem undertakes audit of IIP information.

Arrangements for the provision of customer information

6.6 In order for Ofgem's appointed agents to undertake a survey of customers' views on the telephone response that they receive when they contact the distribution business, it is necessary for the companies to provide Ofgem (or its appointed agents) with customer information on a regular basis. The information that must be provided is outlined in Section 2 and should be submitted within 4 normal working days of the end of the week in which the customer contacted either of the specified enquiry services. For these purposes the end of the week is defined as the Friday in the week in which the customer contacted the distribution business and normal working days exclude Saturday and Sunday.

6.7 The most appropriate arrangements for submitting this information need to be agreed with the distribution businesses, although Ofgem's preference is for this to be done in electronic form.

Appendix 1 IIP licence condition

1.1 This Appendix sets out a revised draft of the IIP licence condition which was originally included in the IIP final proposals document on output measures and monitoring delivery between reviews (September 2000). The revised draft takes into account comments received from respondents to that document. Ofgem intends to issue a Section 11 notice (a 28 day statutory consultation) on the licence condition around the middle of December. This draft of the licence condition could be subject to further revision prior to the issuing the Section 11 notice.

Condition X: Incentive Scheme and associated Information

1. The purposes of this Condition are to secure the collection of information on a common basis by the Distribution Business of each public electricity supplier and to an appropriate degree of accuracy:

   (a) to facilitate the establishment and operation of an incentive scheme ("the scheme") to improve the operation and delivery of appropriate outputs of the Distribution Business; and

   (b) to monitor any perverse incentives arising from the collection and publication of such information and from the operation of the scheme and the charge restriction conditions.

2. In order to achieve the purposes specified in paragraph 1, the Licensee shall establish appropriate systems, processes and procedures to measure and record Specified Information from the dates specified in paragraph 4 and in accordance with Regulatory Instructions and Guidance.

3. For the purposes of this Condition:

   "Charge restriction conditions" shall have the same meaning as in Condition [Charge Restriction Conditions: definitions];

   "Charging review date" means the date from which modifications to the charge restriction conditions relating to the Distribution Business of all public electricity suppliers have effect:

   (i) whether before or after the date upon which the modifications are made;
   (ii) whether or not the same modifications are made in respect of each Distribution Business; and
   (iii) where such modifications have been proposed by the Authority following a review by the Authority of the charge restriction conditions (or that part to which the modifications relate) in relation to all public electricity suppliers;

"Regulatory Instructions and Guidance" means any instructions and guidance issued by the Authority for the purpose of this Condition including any modification by notice under paragraph 10 and may include:

(a) Instructions and guidance as to the operation of different systems, processes, procedures, manners and standards for different classes of information;

(b) a timetable for the development of the systems, processes and procedures required to achieve the appropriate standards of accuracy and reliability with which Specified Information shall be recorded.

(c) the meaning of words and phrases used in defining Specified Information;

(d) requirements for the recording of information associated with Specified Information which are reasonably necessary to enable an examiner to determine the accuracy and reliability of Specified Information;

(e) requirements as to the form and manner in which Specified Information shall be provided to the Authority;

(f) requirements as the manner in which Specified Information shall be recorded and as to the standards of accuracy and reliability with which it shall be recorded; and

(g) a statement as to whether and to what extent each category of Specified Information is required for the purposes of the scheme.

"Specified Information" means:

(a) the number of interruptions in the supply of electricity through the Licensee's Distribution System which occur in each period of 12 months commencing on 1 April in each calendar year having a duration of –

(i) less than 3 minutes, together with the number of customers whose supply was interrupted by each interruption and the cause of that interruption; and

(ii) 3 minutes or more, together with and in respect of each interruption –

(aa) the number of customers whose supply of electricity was at any time and from time to time interrupted;
(bb) for each customer the duration of the interruption;
(cc) the type and location of the interruption; and

(iii) the aggregate number of re interruptions;

(b)(i) the speed of response in handling telephone calls made to the enquiry service operated under each of paragraph 1 of Condition [Security and Safety of Supplies] and paragraph 2(d) of Condition [The Metering Point Administration Service and the Master Registration Agreement]; and

(ii) the telephone number of each person telephoning either of the enquiry services referred to in paragraph (i) whose call was answered by a human operator and the time of the call; together with, if known, the name of that person and whether that person is a Domestic Customer or a non-Domestic Customer;

(c)(i) the aggregate number and cause of faults occurring in specified classes or types of electrical plant or electric lines:

(ii) a statement setting out the asset management strategy of the Licensee in respect of the Licensee's Distribution System; and

(iii) a statement of the reasons for any material increase or decrease in the number and cause of faults referred to in paragraph (i) having regard to equivalent data held in respect of previous years; and

(d) such other information as may from time to time be specified by the Authority, by notice to the Licensee in accordance with paragraph 9

4. Specified Information shall be collected in respect of:

(a) the matters specified in sub-paragraphs (a), (b) and (c) of paragraph 3 from and including 1 April 2001; and

(b) any matter specified under sub-paragraph (d) of paragraph 3 from the date specified in the notice given under that sub-paragraph.

5. The Licensee shall provide to the Authority:

(a) the information referred to in sub-paragraph (b)(ii)of the definition of Specified Information for each week within 4 days of the end of that week;

(b) the information referred to in sub-paragraphs (a),(b)(i) and (c) of that definition on or before 30 April 2002 and 30 April in each succeeding year (or such later date as the Authority may by notice specify) in respect of the period of 12 months expiring on the preceding 31 March; and

(c) the information referred to in sub-paragraph (d) of that definition in respect of such period and by such date as shall be specified in the relevant notice given under that sub-paragraph.

6. The Licensee shall permit a person or persons nominated by the Authority (in each case "an examiner") to examine the systems, processes and procedures referred to in paragraph 2 and their operation, the Specified Information and the extent to which each complies, and is in accordance, with Regulatory Instructions and Guidance.

7. The Licensee shall (and shall procure, insofar as it is able to do so, that any affiliate of the Licensee, any person by whom it procures the performance of the obligation in paragraph 2 and any auditor of such person or of the Licensee shall) cooperate fully with an examiner so as to enable him to carry out, complete and report to the Authority on any examination carried out in accordance with paragraph 6.

8. The Licensee's obligation under paragraph 6 to cooperate with an examiner shall include, without limitation and insofar as necessary or expedient for such purpose, in each case subject to reasonable prior notice to the Licensee:

   (a) providing access to management, employees, agents or independent contractors of the Licensee sufficient to enable the examiner to make any enquiries and to discuss any matters which he reasonably considers to be relevant to the carrying out of the examination;

   (b) giving to the examiner access at reasonable hours to any premises occupied by the Licensee or any other person in performing the obligations set out in this Condition; and

   (c) allowing the examiner at reasonable hours:

      (i) to inspect and make copies of, and take extracts from, any documents and records of the Licensee maintained in relation to Specified Information;
      (ii) to carry out inspections, measurements and tests on or in relation to any systems maintained and operated for or in relation to the requirements of this Condition; and
      (iii) to take onto such premises or onto or into any assets used for the purpose of the Distribution Business such other persons and such equipment as may be necessary or expedient for the purpose of carrying out the examination.

9. A notice published by the Authority which adds to the categories of Specified Information or which modifies Regulatory Instructions and Guidance (in each case, an "amendment") shall have effect where the Authority has:

   (a) given prior notice to all public electricity suppliers:

      (i) stating that it proposes to make the amendment and setting out its effect, the date it is proposed it should take effect and (where relevant) whether the additional category of Specified Information is required for the purposes of the scheme;

      (ii) stating the reasons why it proposes to make the amendment; and

      (iii) specifying the time (not being less than 28 days from the date of publication of the notice) within which representations or objections with respect to the proposed amendment may be made; and

   (b) considered any representations or objections which are duly made and not withdrawn.

10. A notice under paragraph 9(a) may not, where the amendment relates to a requirement in Regulatory Instructions and Guidance to provide any Specified Information to a greater level of accuracy or the introduction of an additional category of Specified Information which is intended to be included in the scheme,

specify a date for the purpose of paragraph 9(a)(i) other than a charging review date nor be given less than 12 months prior to that date unless all public electricity suppliers have agreed an alternative date or period of notice.

11. The reasons for proposing an amendment which relates to any change in Regulatory Instructions and Guidance (other than that referred to in sub-paragraph (a)) in respect of Specified Information which is or is intended to be included in the scheme may have regard in particular to the desirability of:-

    (i) removing or reducing inconsistencies in the application of the Regulatory Instructions and Guidance or its interpretation between public electricity suppliers;
    (ii) improving the presentation or style of the Regulatory Instructions and Guidance or of the form and manner in which the Specified Information is to be provided;
    (iii) summarising the terms of reference and instructions from time to time given to an examiner; or
    (iv) setting out any of the matters referred to in paragraphs (a) to (f) of the definition of Regulatory Instructions and Guidance in respect of any additional category of Specified Information

    so as more effectively to achieve the purpose of this Condition.

    [Note: definitions used in this Condition will be conformed to those used in the Standard Licence Conditions when these are finalised together with any necessary consequential drafting changes.]