Electricity Authority Registry

Functional Specification

Version 19.0

11 March 2012

Version control

The version history below shows recent changes. Historical versions are retained on archive.

Version	Release Date	Section	Description
	May 2008		Part J Registry upgrade
9.0	14 July 2008	DS-010	Added DS-010 distributor switching section
10.0	27 November 2009	PR-140	Added PR-140
11.0	31 March 2010	SD-010	The validation for an NSP may be lifted on request of the Commission to allow non-contiguous dates on the same NSP.
12.0	18 June 2010	PR-140	Additional stats added splitting NHH switches into S and SM.
13.0	19 October 2010	PR-160	Additional NSP Trading report.
14	09 February 2011	PR-070 PR-130 PR-140 PR-170	Statistics to be delivered to the Authority's SFTP server. Documentation of PR-170.
15	24 February 2011	SD-010	Additions from annual audit recommendations.
16	06 June 2011	PR-145 PR-180	Addition of a daily switch report for the Authority. Addition of a switch trend report for the Authority.
17	12 August 2011	PR-035	Addition of ICP Attributes Report
18.0	24 February 2012	All sections	Updated to reflect transition to the Electricity Authority and updates to parts 11 and 15. Includes minor drafting amendments and general consistency updates. Addition of the following sections: EIEP exchange;

Version	Release Date	Section	Description
			Web services; and Batch file specifications (also included in Appendix 4).
		EI-010	Addition of EIEP Transfer Settings.
		EI-020	Addition of EIEP Upload and Download.
		EI-030	Addition of EIEP Transfer.
		PR-030	Example(s) added to the format.
		PR-060	
		NP-030	
		PR-050	Information in data inputs added from registry user manual.
		PR-065	Addition of Request file handler status
		PR-190	Addition of EIEP Statistics report for the Authority.
		SD-030	Information added in data outputs.
		SD-040	
		QU-040	Addition of View Registry Audit Data.
19.0	11 March 2012	RA-010 RM-020 RS-040	CR-1092: Relax Meter Update validation whereby if the MNON Meter Owner code is submitted and the Meter Category is 1, the ICP does not require Un-metered KwH or Meter Type Unmetered
		Network attributes	CR-1078: The Reconciliation Types available to Distributor include GN, EN, SB, LE and SI. Reconciliation Types GD, GG and EG cannot now be assigned to an ICP.
		PR-050	Reconciliation manager able to request ICP Days report via FTP

Registry functional specification

Introduction

The registry is a national database that contains information on every point of connection on the national grid from which electricity is supplied. These points of connection are referred to as installation control points (ICPs). Each ICP has a unique identifier (an ICP Identifier). The registry is the electricity industry's *database of record* of all ICPs.

Through the use of ICPs, the registry helps manage both the customer switching and reconciliation processes. Part 11 of the Electricity Industry Participation Code 2010 (the Code) provides for the management of information held by the registry and outlines the process for switching customers between Traders.

Background

The first registry was implemented in April 1999 and was further enhanced in 2002. The original requirement for that registry was to provide a low-cost system to enable end-use customers to switch energy Traders and was concerned with the recording of basic ownership, Status and Profile information about an ICP.

The enhancement in 2002 expanded the amount of information recorded about an ICP to include an Address, metering installation details and Distributor pricing. It also made the registry the database of record by requiring that the registry be used as the primary mechanism for processing switches – the switching of the customer trading at an ICP from one Trader to another.

This document

This document describes the business functional requirements of the registry. This document should be read in conjunction with the associated registry Operational Requirements.

It is important to note that the registry system currently exists and, while considerable effort has been made to restrict the document to business requirements, some existing design concepts have had to be included where they have become fundamental to users' operations.

This document does not contain any screen layouts or file interface specifications of the current registry system; however, their information content and processing details are provided.

Contents

Version control A

Registry functional specification C

Introduction C
Background C
This document C

1. Concepts 1
1.2 Terminology 3
1.3 Code references 3
1.4 Attributes of an ICP 4
1.5 Types of ICP 12
Distributor-only – embedded network metering installation ICPs 13
Distributor-only – shared unmetered ICPs 14
1.6 Events 14
1.7 Event types 15
1.8 Event type responsibilities 17
1.9 Event processing 17
1.10 Acknowledgements 19
1.11 Notifications 20
Filtering-up of historical changes 21
Notification parameters 21
1.12 Switching protocol 22
Switching parameters 24
Switching file naming standard 24
1.13 ICP Status lifecycle 25
Standard ICP business rules 26
Standard ICP Status transitions 27
Distributor-only ICP business rules 28
Distributor-only ICP Status transitions 29
1.14 Participants and registry roles 30
Distributors 30
Traders 31
Meter Owners 32
Electricity Authority 33

	Reconciliation manager	34
	Clearing manager, system operator, and Reconciliation Manager	34
	Registry manager	35
1.15	User interfaces	35
	Current online interface	35
	Current batch interface	35
	File naming convention	36
	Batch file headers	36
	Batch selection criteria	36
	Back-office systems	36
	Errors	36
1.16	Security	37
1.17	EIEP Exchange	38
1.18	Web Services	38
2.	Process maps	39
3.	Sub-processes	43
3.1	ICP event maintenance – Distributor	43
	DC-010 Create an ICP	43
	DC-020 Make a *new* ICP *ready*	47
	DC-030 Make a *new* ICP *distributor*	49
	DM-010 Change initial ICP creation date	51
	DM-020 Add additional Distributor information	53
	DM-030 Correct Distributor information	57
	DM-040 Reverse Distributor information	59
3.2	ICP event maintenance – Trader	61
	RA-010 Trader becomes responsible for an ICP	61
	RM-010 Reverse initial assignment	65
	RM-020 Add new Trader information	66
	RM-030 Correct Trader information	70
	RM-040 Reverse Trader information	72
3.3	Switching	74
	RS-010 Make switch request (NT)	74
	RS-020 Acknowledge switch request (AN)	77
	RS-030 Complete non-half-hour switch (TN)	80
	RS-040 Complete half-hour switch (TT)	85
	RW-010 Make withdrawal request (NW)	89

RW-020 Acknowledges withdrawal request (AW) 92
RC-010 Request switch read change (NC) 94
RC-020 Acknowledge switch read change (AC) 98
DS-010 Transfer ICPs between Distributors 100
3.4 Reporting 104
PR-010 Produce ICP list (on demand) 104
PR-015 Produce current details report 111
PR-020 Produce monthly Trader ICP reports 113
PR-030 Produce ICP event detail report 114
PR-035 Produce ICP Attribute Changes 122
PR-040 Produce switch compliance reports 125
PR-050 Produce ICP days report 134
PR-060 Produce audit log 137
PR-065 Request file handler status 140
PR-070 Produce monthly statistics 142
PR-080 Produce monthly HHR ICP list 147
PR-090 Produce active NSPs report 149
PR-100 Produce loss factors report 151
PR-110 Produce maintenance compliance report 153
PR-120 Produce NSP mapping table report 160
PR-130 Produce monthly activity and status summary report 163
PR-140 Produce monthly switch completion report 166
PR-145 Produce daily switch report 169
PR-160 Automated Trade Notification 170
PR-170 Produce Monthly report 172
PR-180 Produce ICP Switching Trend Report 174
PR-190 EIEP Statistics 178
User parameters 180
MP-010 Set switching message receipt times 180
MP-020 Set notify parameters 182
3.5 Notifications 183
NP-010 Acknowledge event change 183
NP-020 Send switch messages 186
NP-030 Notify of event change 188
NP-040 Re-send switching messages 193
NP-050 Re-send notifications 194
3.6 Online queries 195
QU-010 Search for Address to find ICP 195
QU-020 View ICP information 197

QU-030 View static table information 198
QU-040 View Registry Audit Data 199
3.7 Maintaining static data 203
SD-010 Maintain NSP data 203
SD-020 Maintain static data 206
Current valid codes 208
AN response codes 208
NW withdrawal advisory codes 208
Register Content codes 209
Meter Location Codes 211
SD-030 Maintain Distributor Loss Category Codes 213
Example: 215
SD-040 Maintain Distributor Price Category Codes 217
3.8 Security 220
SU-010 Supervisor adds new user 220
SU-020 Disables user 222
SU-030 Supervisor resets user password 223
SU-040 Assign agent 224
PW-010 Change user password 225
3.9 EIEP Transfer 226
EI-010 EIEP Transfer Settings 226
EI-020 EIEP Upload and Download 228
EI-030 EIEP Transfer 230

Appendix 1 Calculation of the ICP checksum 233
Retail competition committee 233
27 January 1999 233
Version control 234
Introduction 235
Checksum requirements 236
Specifying the checksum 238
Sample ICP Identifiers 241

Appendix 2 Address population standards 243
Registry project 243
Address population guidelines 243
Introduction 244
About this document 244
Purpose 244
A/NZ addressing standard 244

Changes to the registry address format and validations 244
Best efforts 244
The following sections 244
A/NZ addressing standard for street addressing 245
Urban addressing 245
Components of urban addresses 245
Presentation order rules 246
Rural addresses 246
Components of rural addresses 246
Presentation order rules 247
Guidelines for population of registry address structure 247
The acid test to be applied when determining whether the address is adequate is… 247
Components of registry Address 248
Registry Address population rules 248
Appellation 249
Field delineators 249
Dairy numbers 249
Regions 249
Case insensitive 250
Change address process 250
Examples of address 250

Appendix 3 Password standards 257

Appendix 4 Batch file standards 258

Figures

Figure 1: Diagram: Registry participants and its major functions (on next page) 1
Figure 2: ICP lifecycle 25
Figure 3: Process map – ICP event Distributor and Trader maintenance 39
Figure 4: Process map – switching 40
Figure 5: Process map – reporting, parameters, notifications and queries 41
Figure 6: Process map – maintaining static data and access security 42

1. Concepts

1.1.1 The registry is a repository of all ICP information.

1.1.2 The main processes and purposes of the registry are:

(a) the maintenance and validation of ICP information, both current and historical, via online and batch functions;

(b) a notification facility that advises all affected participants of changes made to ICP information;

(c) a delivery mechanism for the switching protocols;

(d) the provision of ICP lookup facilities to authorised participants, both online and in batch (file) mode;

(e) the provision of reconciliation reporting;

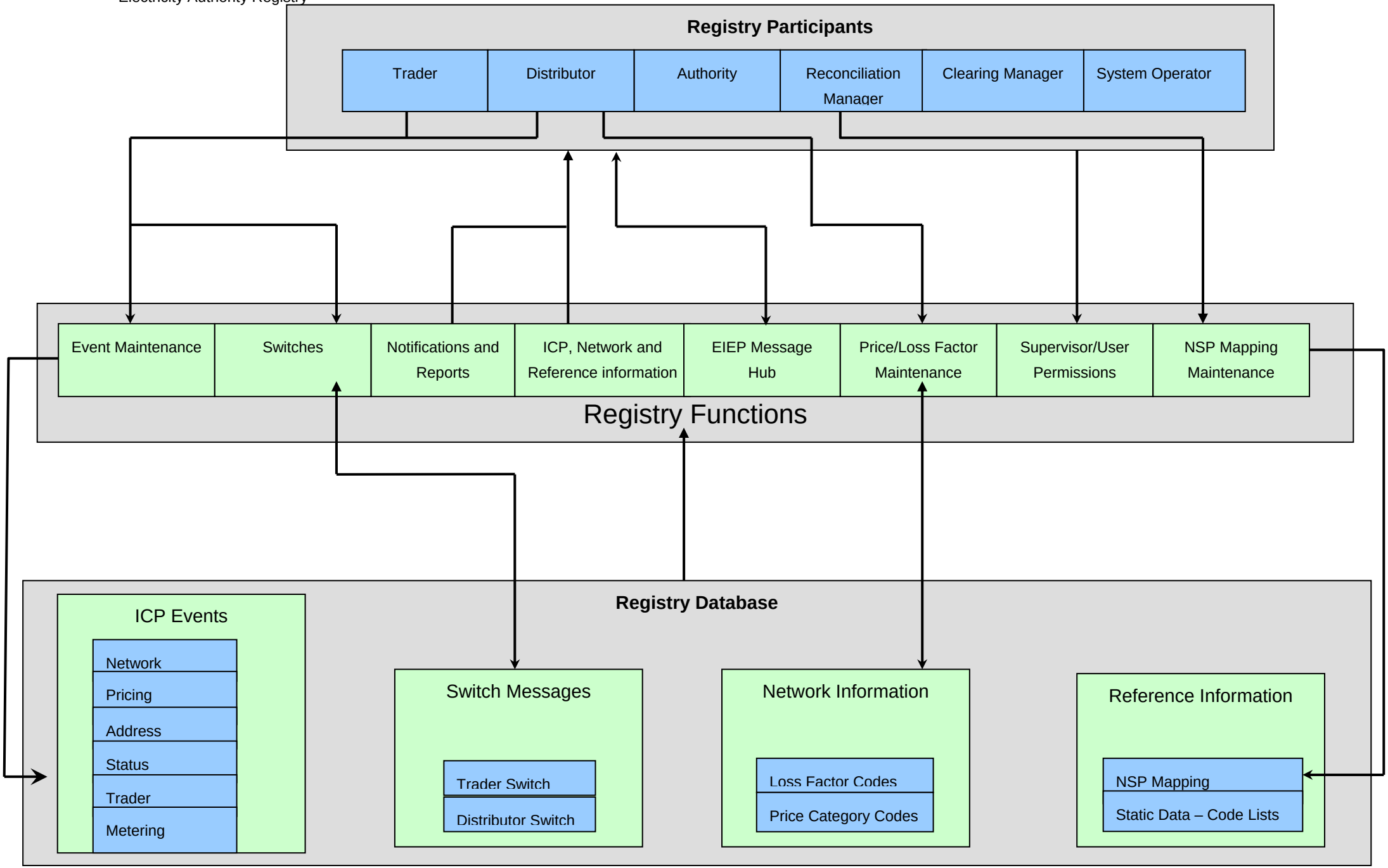
(f) the provision of compliance reporting; and

(g) the management of discrepancies between participant back-office systems and the registry.

1.1.3 The Code defines which participant is responsible for providing information about specific ICP attributes, and the timeframes within which the information must be provided. The management of the timeframes is a passive process by the provision of 'after the fact' compliance reports.

Figure 1: Diagram: Registry participants and its major functions (on next page)

Version 19.0
Electricity Authority Registry



1.2 Terminology

1.2.1 Due to terminology changes over time, the following terms are equivalent and interchangeable in this document:

(a) Daily Unmetered kWh = Unmetered Load Capacity;

(b) Distributor = Network = line company;

(c) Trader = a retailer, direct purchaser, or generator who buys electricity from or sells electricity directly to the clearing manager, or enters into an arrangement with a retailer, direct purchaser, or generator to buy or sell contracts (or parts of contracts) for electricity;

(d) market administrator = Electricity Authority = Board = Authority;

(e) Metering Equipment Owner = Meter Owner = Primary Metering Contact;

(f) Proposed Trader = first Trader;

(g) Reconciliation Type = connection type;

(h) replacement = update; and

(i) reversal = cancellation.

1.2.2 And the following acronyms have the following meanings:

(a) Code = Electricity Industry Participation Code 2010;

(b) GXP = grid exit point;

(c) GIP = grid injection point;

(d) NSP = network supply point; and

(e) POC = point of connection.

1.3 Code references

1.3.1 The clauses of the Code referenced in this document are contained in Part 11 of the Code.

1.3.2 A copy of the Code can be downloaded from http://www.ea.govt.nz/act-code-regs/code-regs/the-code/ .

1.3.3 If there are any conflicts between this document and the Code, the Code takes precedence.

1.4 Attributes of an ICP

1.4.1 The main function of the registry is to be the database of record for ICP information. An ICP has a number of possible attributes, which may change over time. The Code requires that information about certain ICP attributes be provided and updated by the relevant Distributor or Trader, within specified time limits.

1.4.2 There are different types of ICP and each has different attributes. The full set of possible attributes for ICPs is as follows:

(a) ICP Attributes

Attribute	Format	Description
ICP Identifier	Char 15	Each ICP has a unique identifier of the form: yyyyyyyyyyxxccc where: – yyyyyyyyyy is a 10-digit numerical sequence provided by the Distributor; – xx is two alphabetic characters assigned by the Authority to the Distributor and ensures the resulting ICP Identifier is unique within the registry; and – ccc is a three-digit checksum. The algorithm for calculating the checksum is detailed in Appendix 1.

(b) Address Attributes

Attribute	Format	Description
Physical Address Unit	Char 20	Address unit
Physical Address Property Name	Char 75	Address property name
Physical Address Number	Char 25	Address number / RAPID number
Physical Address Street	Char 30	Address street
Physical Address Suburb	Char 30	Address suburb

Physical Address Town	Char 30	Address town
Physical Address Region	Char 20	Address region
Physical Address Post Code	Numeric 4	Address post code

(i) The inclusion of the ICP Address of an ICP in the registry is the responsibility of the Distributor. The industry has developed guidelines to ensure the consistent population of addresses. These guidelines are contained in Appendix 2.

(ii) The minimum information required for a valid ICP Address is:

- Property Name or Street;
- Town or Suburb; and
- Region.

(c) Network Attributes

Attribute	Format	Description
Network Participant Identifier	Char 4	A four-character code indicating the Distributor/Network owner responsible for a connection point. This value does not change on a day-to-day basis but may change over time, for example if Network providers merge. Network Participant Identifiers are assigned by the Authority.
POC	Char 7	A seven-character code that indicates the POC to which the ICP is connected. This information rarely changes but can do so if GXP boundaries change. POCs are assigned by the Reconciliation Manager as part of the NSP identifier and maintained in the NSP mapping table.
Reconciliation Type	Char 2	A two-character code that indicates how the ICP consumption is reconciled. Values can be one of: GN grid connected network; ~~GD direct consumer;~~ ~~GG grid connected generator;~~

Attribute	Format	Description
		EN embedded network; SB embedded network residual load; LE embedded network gateway; or SI shared unmetered load. Note: LE and SI Reconciliation Types are Distributor-only ICPs. Further information on Distributor-only ICPs can be found in section 1.5.
Dedicated NSP	Char 1	If an ICP is located in a balancing area that has more than 1 NSP located within it, and the ICP will be supplied only from that particular NSP, or the ICP is a point of connection between a network and an embedded network, the ICP must be designated as "dedicated". A single character is used to indicate whether the ICP is dedicated. The character must be: Y—yes (the ICP is dedicated); or N—no (the ICP is not dedicated). This is the default character. The Reconciliation Manager uses the Dedicated NSP status as a priority order when moving volumes between NSP's to achieve balance.
Installation Type	Char 1	A single-character code that can take one of the following three possible values: L—load; G—generation; or B—both.
Proposed Trader	Char 4	A four-character code (Participant Identifier) that identifies a valid Trader. During the pre-commissioning phase a Distributor can choose to record who they believe will be the initial Trader trading at an ICP. Notifications of all changes made to that ICP in the pre-commissioning phase are then required to be sent to that Trader. However, the actual initial Trader

Attribute	Format	Description
		can be different from the one proposed.
Unmetered Load Details – Distributor	Char 50	A general-purpose alphanumeric value used by the Distributor to record the type of unmetered load and its capacity and to notify the Trader.
Shared ICP List	List	A list maintained by Distributors. For ICPs across which unmetered load is shared, the list will contain the ICP identifiers of each ICP separated by a space. For Standard ICPs with a relationship across which unmetered load is shared, this will contain the ICP Identifier of the ICP across which unmetered load is shared.

(i) The NSP Identifier is a composite code made up of the Network Participant Identifier and the POC. All valid NSP identifier combinations are maintained by the Reconciliation Manager in the registry. Distributors can only use the NSP identifiers where they are recorded as being the owner in the NSP mapping table.

(ii) The NSP Identifier is assigned in the following format: bbbqqqz nnnn. Where bbbqqqz is the POC and nnnn is the Network Participant Identifier.

(d) Pricing Attributes

Attribute	Format	Description
Distributor Price Category Code	Char 50	A general-purpose alphanumeric code for identifying the line charges (there can be multiple charge categories associated with an ICP) to be applied by the Distributor to the Trader trading at an ICP. Each Distributor has their own set of price categories which they maintain in the registry, and against which the value of the attribute is validated.
Distributor Loss Category Code	Char 7	A general-purpose alphanumeric code that identifies the algorithm used to calculate line losses for the ICP. Each

Attribute	Format	Description
		Distributor has its own set of loss categories which it must maintain in the registry, and against which the value of the attribute is validated.
Distributor Installation Details	Char 30	A general-purpose alphanumeric value.
Chargeable Capacity	Numeric 7.2	A numeric value (decimal with two decimal places) that is used to facilitate the communication of additional line charging information between Distributors and Traders.

(e) Trader Attributes

Attribute	Format	Description
Trader Participant Identifier	Char 4	Identifies the Trader responsible for supplying electricity to the ICP. This value can only be changed if another Trader accepts responsibility for the ICP. NB: The Trader ceases to be responsible for obligations in part 11 when another trader accepts responsibility for the ICP or the ICP is decommissioned in accordance with clause 20 of schedule 11.1. Trader Participant Identifiers are assigned by the Authority.
Profile	Char 25	A list of three-character codes that identify the profile type(s) that has been assigned to the ICP. There can be multiple Profiles associated with an ICP. Profiles are used in the reconciliation process to allocate energy consumption. Traders can only use Profile codes approved for their individual use and only during a specific period. Profile codes are approved by the market administrator.

(f) Metering Installation Information Attributes

Attribute	Format	Description
Primary Metering Contact Participant Identifier	Char 4	This code identifies the primary Metering Equipment Owner who owns any or all of the meters installed at the ICP. Metering Equipment Owner Participant Identifiers are assigned by Authority. NB: In practice, Distributors and Traders can be Metering Equipment Owners, and not necessarily for ICPs they currently own (ie Distributor or Trader Participant Identifiers may not match the Primary Metering Contact Participant Identifier for an ICP). In the case of a dual role, i.e. where the Distributor or Trader is responsible for the ICP in the registry and is also the Metering Equipment Owner, there are additional processing requirements with respect to notifications (see section 3.5 on Notifications).
Metering Category	Numeric 1	A numerical code (from 0 to 6) indicating the voltage, current, measuring transformers and maximum permitted error associated with an ICP. For ICPs with more than one meter the highest number is recorded. The categories are defined in code of practice 10.1 of schedule 10.1 of the Code.
Meter Type HHR	Char 1	An indicator half hourly metering is installed at an ICP.
Meter Type NHH	Char 1	An indicator non-half hourly metering is installed at an ICP.
Meter Type UNM	Char 1	An indicator an ICP is unmetered (ie no meter installed).
Meter Type PP	Char 1	An indicator prep-paid metering is installed at an ICP.
Advanced Metering Infrastructure	Char 1	The value (Y/N) indicates the presence of an advanced meter. Default is “N”.
Daily Unmetered kWh	Char 6	If an ICP is unmetered (ie the metering

Attribute	Format	Description
		type UNM is assigned to the ICP), and the load is profiled through an engineering profile in accordance with profile class 2.1, the code 'ENG' must be assigned to the ICP to indicate that the load is profiled using an engineering profile. The value is that code. If the load is not profiled through an engineering profile, the daily average unmetered load in kWh at the ICP must be provided (this is a decimal number up to 3 decimal places). There is no checking that the ICP has an associated engineering profile.
Unmetered Load Details – Trader	Char 50	A general-purpose alphanumeric value used by the Trader to record supporting information about the type of unmetered load.
Meter Register Count	Numeric 3	A numerical value representing the total number of registers for all the meters at an ICP. It is used in the switching process.
Meter Multiplier Flag	Char 1	The value (Y/N) indicates the presence of a meter multiplier not equal to 1 for at least one of the meters at an ICP. It is used in the switching process.

(i) There are four different Meter Types: half hourly, non-half hourly, pre-paid and unmetered (ie no meter installed) and it is possible to have more than one type (including unmetered) at an ICP. At least one must be selected.

(g) Status Attributes

Attribute	Format	Description
ICP Status	Char 3	This code has two roles. First it shows the stage the ICP has reached, such as *new or ready* during the pre-commissioning phase and *decommissioned* if the ICP is no longer used. Second, once the ICP is commissioned and a Trader has accepted responsibility for the ICP, the Status indicates whether the ICP is *active* or *inactive*, ie consuming energy or not. (Only those ICPs that are active during a reconciliation period are included in the reconciliation process.) The Status of an ICP can therefore be: 999—new; 888—distributor; 000—ready; 001—inactive; 002—active; or 003—decommissioned.
Status Reason		A two-character numeric code, required when the Status is *inactive* or *decommissioned*, which indicates the reason why the ICP has been given the Status. The current reasons associated with a *decommissioned* Status are: 01—setup in error; 02—installation dismantled; and 03—ICP amalgamation. The current reasons associated with an *inactive* Status are: 04—de-energised vacant property; 05—reconciled elsewhere; and

Attribute	Format	Description
		06—de-energised ready for decommissioning. The above list of codes may change, but only very infrequently.

1.5 Types of ICP

1.5.1 The Code describes two types of ICP:

(a) Standard ICPs –the majority of ICPs. These follow the standard lifecycle whereby a Distributor assigns an ICP Identifier to an ICP, a Trader accepts responsibility for the ICP, and the ICP is then able to be switched. The ICP information is managed by both Distributors and Traders; and

(b) Distributor-only ICPs – these ICPs are not assigned to Traders. Information about Distributor-only ICPs is provided and updated solely by the Distributor. These ICPs are used for two purposes:

(i) to record information about the point of connection between an embedded network or local network and its parent network (maintained by the parent network Distributor); and

(ii) to record information about an ICP across which unmetered load is shared, such as a sewerage pump or under-veranda lighting. (This ICP records all ICPs across which the unmetered load is shared.)

1.5.2 The type of ICP is dictated by the Reconciliation Type. ICPs created with Reconciliation Types of LE and SI are Distributor-only ICPs. The remaining Reconciliation Types are assigned to Standard ICPs only.

1.5.3 The following information is required to be provided in respect of Standard ICPs:

(a) ICP Identifier;

(b) ICP Address;

(c) Network Participant Identifier;

(d) POC;

(e) Reconciliation Type;

(f) Dedicated NSP;

(g) Reconciliation Type code;

(h) Distributor Loss Category Code and loss factors for each Distributor Loss Category Code;

(i) embedded generating station information (if relevant);

(j) Distributor Price Category Code;

(k) Chargeable Capacity;

(l) Distributor Installation Details;

(m) the Participant Identifier of the first Trader;

(n) Unmetered Load Details – Distributor, if applicable (and unless the unmetered load is distributed unmetered load);

(o) Participant Identifier of the Trader;

(p) Profile code of each Profile at the ICP;

(q) Participant Identifier of the Primary Metering Contact;

(r) the highest metering installation category;

(s) Installation Type;

(t) if the ICP is unmetered, the code ENG or the daily average unmetered kWh

(u) Advanced Metering Infrastructure;

(v) Unmetered Load Details – Trader;

(w) the number of Meter Registers

(x) a flag (if there is a meter multiplier)

(y) Status; and

(z) Status Reason.

Distributor-only – embedded network metering installation ICPs

(a) ICP identifier;

(b) ICP Address;

(c) Network Participant Identifier;

(d) POC;

(e) Reconciliation Type Code;

(f) Dedicated NSP;

(g) Installation Type;

(h) Distributor Loss Category code; and

(i) Status.

Distributor-only – shared unmetered ICPs

(a) ICP Identifier;

(b) ICP Address;

(c) Network Participant Identifier;

(d) POC;

(e) Reconciliation Type Code;

(f) Dedicated NSP;

(g) Installation Type;

(h) Unmetered Load Details – Distributor if applicable (and unless the unmetered load is distributed unmetered load);

(i) Shared ICP List;

(j) Distributor Loss Category code; and

(k) Status.

1.6 Events

1.6.1 Events are the primary mechanism for handling changes to attributes in the current system and it is anticipated that they will be retained in the new system.

1.6.2 In the first version of the registry, released in 1999, there was only one type of ICP and it only had seven attributes: date; Trader; data administrator; Profile type; Status; event reason; and NSP code. Whenever an attribute was changed, a new record was created with a new date. The new value of the attribute was inserted and the values of the other attributes were copied unchanged into the new record from the one preceding it. In effect, each ICP was represented by a straightforward time-series. When the enhanced system was introduced in 2002 and new attributes were added, it was decided that it would not be practical to use the above approach; instead, the ICP attributes were partitioned into separate groups and the concept of events was introduced. In addition to its attributes, each event has an Event Date and a User Reference.

1.6.3 The Event Date defines the date from which the attribute values of the event should apply. There is no end date. The state defined by the attribute values of an event for an ICP continues until a new event of the same type supersedes it. By convention, all events are deemed to occur at 0:00:00 on the day of the Event Date and to end at 23:59:59 on the day before the Event Date of the next event of the same type.

1.6.4 The User Reference is a general-purpose alphanumeric value available for recording any extra information the user deems appropriate.

1.6.5 NB: The use of events is central to the current registry system. Information about ICPs is structured as events, and events are the user interface construct through which data is entered into the system and through which it is maintained.

1.7 Event types

1.7.1 It should be noted that not all ICPs will have a full complement of events of each of the possible types shown below. For example, Distributor-only ICPs will lack reconciliation and Metering events.

1.7.2 Each event type groups ICP attributes as described earlier in Attributes of an ICP. In addition to their specific attributes, each event also has the general Event Date and User Reference values.

Attribute	Format	Description
Event Date	DD/MM/YYYY	The Event Date defines the date from which the attribute values of the event should apply.
User Reference	Char 32	A general-purpose alphanumeric value available for recording any extra information the user deems appropriate

(a) Event type – network

This event type groups together the attributes relating to network connection details and the network owner (Distributor).

(b) Event type – Distributor pricing

This event type groups together the attributes relating to Distributor line charges and loss factors.

(c) Event type – Address

Refer to the attribute section for details on the minimum requirements of a valid Address. The full Address event has the following attributes.

(d) Event type – Reconciliation

This event type groups together the attributes used for reconciliation and for identifying the current Trader.

(e) Event type – Metering Installation Information

This event type groups together the attributes relating to the physical meters at the ICP site and for identifying the Meter Owner.

(f) Event type – Status

This event type groups together the attributes relating to the pre-commissioning stage and energisation Status of the ICP (see ICP Status lifecycle).

1.8 Event type responsibilities

(a) Only Distributors may create, update and reverse network, pricing, Address and Status events (decommissioning only).

(b) Only Traders may create, update and reverse Reconciliation and Metering events.

(c) Distributors and Traders jointly manage the Status event. Distributors are responsible for the Status in the pre-commissioning stage and when decommissioning the ICP. Traders are responsible for maintaining the energisation Status of the ICP – inactive and active.

(d) Currently the Trader is responsible for providing and updating information about the primary contact for the metering equipment to which an ICP is connected.

1.9 Event processing

1.9.1 The following business rules govern the processing of all events.

(a) Events must be made explicit to users at the user interface.

(b) Users must be able to deal simultaneously with all the different types of event for an ICP for which they are responsible, and each event must be allowed to have a different Event Date unless otherwise stated.

(c) Only the participant responsible for the creation of an event may update or reverse it.

(d) Whenever a new value of an attribute is assigned, a new event must be created to incorporate the change.

(e) There must be no automatic inheritance of attribute values. Whenever the value of an attribute needs to change, a value must be provided for every mandatory attribute of the associated event.

(f) Event Dates must not be in the future. The legal range for an Event Date is between 1 April 1999 and today's date. An event may be inserted anywhere in this range.

(g) If an event of a given type is inserted for an Event Date for which another event already exists, the new event must replace the existing one.

(h) There can only be one ‘active’ event for one Event Date of a particular event type. This means that if one event is updated, and therefore replaced, it is the new event that contains the currently applicable information. The information in the old event is no longer current.

(i) When an existing event is reversed, it must only be logically deleted, not physically removed. It must be indicated as reversed.

(j) Replaced and reversed events must be retained for history and audit trail purposes.

(k) The insertion of a new event can be ‘undone’ to revert to a prior event by reversing it. However, once an event is replaced or reversed it cannot be re-activated in any way. A new event must be created.

(l) A complete event history must be recoverable for each ICP, including reversed and replaced events.

(m) When a new event is created, the following information must be recorded for audit purposes:

  (i) the user ID of the person creating the event;

  (ii) the date and time the event was created;

  (iii) the method of creation, ie online or file; and

  (iv) the filename if the method was ‘file’.

(n) When an existing event is reversed, the following information must be recorded for audit purposes:

  (i) the user ID of the person reversing the event;

  (ii) the date and time of reversal;

  (iii) the method of reversal, ie online or file; and

  (iv) the filename if the method was ‘file’.

(o) When an existing event is replaced, the following information must be recorded for audit purposes:

  (i) the user ID of the person replacing the event;

  (ii) the date and time of the replacement;

  (iii) the identity of the replacement event;

  (iv) the method of replacement, ie online or file; and

  (v) the filename if the method was ‘file’.

(p) A user may only insert, update or reverse events during their company's period of ownership. For example, if an ICP is switched to a Trader on date d1 and lost to another Trader on date d2, the Trader may make changes only on or after d1 and before d2.

(q) There are three possible ownership relationships for an ICP: Distributor; Trader; and Meter Owner. Ownership changes occur on the date of the event, in which the value of the corresponding attribute changes, i.e. Network Participant Identifier, Trader Participant Identifier or Primary Metering Contact Identifier.

(r) An event that would invalidate other prior events must not be inserted. For example, an ICP Status change to *inactive* may not be inserted before the initial accepting of responsibility for an ICP by a Trader. Also, Reconciliation Types cannot be changed when that change would alter the type of ICP.

(s) An event may not be reversed if that reversal would invalidate a later event.

(t) Events must be processed in the order in which they arrive.

(u) Every insertion, change and reversal of an event must be acknowledged to the responsible participant.

(v) Every participant affected by the insertion, change or reversal of an event must be notified of the fact.

(w) System is to prevent the insertion of duplicate events.

1.9.2 The processing of events can be thought of in terms of queues. When a new event is created it is placed in the queue for its type at a position determined by its Event Date. If there is already an event in the queue with the same Event Date then the new event is put in front of the existing one. Events are never physically removed from the queue, only logically deleted. The current event is the first non-reversed/non-replaced event in a queue. The current event defines the attribute values of the given event type which presently apply for the associated ICP. The complete current state of an ICP is defined by the current events from each of its associated event queues. A queue may be empty, particularly during the pre-commissioning phase when events of some event types have yet to happen.

1.10 Acknowledgements

1.10.1 The Code requires that the registry provide confirmation to a participant when the registry receives updated information about an ICP within four hours of input of the change (clause 11.21).

1.10.2 For transactions entered online, although an online message of a successful update is sufficient as a confirmation, current automation of back-office systems by clients requires that all acknowledgements must also be provided in a batch file at the end of each day.

1.10.3 For batch updates sent in a file, acknowledgements of each update must be provided in a file immediately the process has been completed. If the system rejects a change received in the file, it must indicate the reason as part of the acknowledgement.

1.10.4 In both cases, users must be able to see online whether their changes have been confirmed (acknowledged). The details shown must include:

(a) date and time stamp;

(b) participant (sent to); and

(c) file name.

1.11 Notifications

1.11.1 The Code requires that, whenever information about an ICP changes, the registry must send notifications of the change to all affected participants on the same day that the information is received (clause 11.29). The affected participants are the Distributors, Traders and Meter Owners who are responsible for the ICP.

1.11.2 Since one or more of the participants may be the subject of a change to an ICP, both current (old) and/or new participants may need to be notified of the change. This means that the evaluation of which participants should receive notifications can be quite complex and results can differ depending on the order in which the processing is done.

1.11.3 It should be noted that at present Traders are responsible for updating metering information, not the Meter Owners. However, although Meter Owners do not have any obligations to update metering information under the Code, they are entitled to be notified about certain matters.

1.11.4 All Meter Owners need to be informed of:

(a) when their period of ownership commences and ceases; and

(b) changes to information about an ICP to which the owner's metering installation is connected during their period of ownership.

1.11.5 Users must be able to see online whether notifications have been sent about an event change. The details shown must include:

(a) date and time stamp;

(b) participant (sent to); and

(c) file name.

Filtering-up of historical changes

1.11.6 An historical change is one that occurs before a current ICP event. When an historical change occurs, notifications must be generated for all participants that owned the ICP from the Event Date of the new event up to BUT NOT INCLUDING the Event Date of the next event (of the same event type) or up to today's date, whichever is the earliest.

1.11.7 For example, if a Metering event is inserted with an Event Date of 01/03/2004 before a later Metering event on 01/05/2004 then all Traders, Distributors and Meter Owners who owned the ICP during the period 01/03/2004 to 30/4/2004 must be notified of the change.

1.11.8 The same filter-up logic must be applied to all insertions, updates and deletions and, in the case of updates, the replaced (old) event must be fully processed before the new event is inserted.

Notification parameters

1.11.9 The Code (clauses 11.29 and 22(d) of Schedule 11.3) defines what notifications are required (mandatory) when there are changes to events and to whom they are sent as follows:

Event type	Distributor	Trader	Metering equipment owner
Address	Mandatory	Mandatory	Optional
ICP Status	Mandatory	Mandatory	Optional
Network	Mandatory	Mandatory	Optional
Metering	Optional	Mandatory	Optional
Pricing	Mandatory	Optional	Optional
Reconciliation	Optional	Mandatory	Optional
Switch[1]	Mandatory	Mandatory	Mandatory
TN	Optional	Mandatory	Optional
NC	Optional	Mandatory	Optional

[1] The event referred to here is the completion of a customer switch from one trader to another trader. The system must be able to distinguish between this reconciliation event and its other occurrences.

1.11.10 Where mandatory is shown, the associated ‘affected’ participant must be sent an appropriate notification. Where optional is shown, the participant must be able to choose whether to receive notifications of events of that type or not.

1.11.11 It should be noted that Traders and Distributors may also be Meter Owners, in which case they must be able to indicate what notifications they receive in each role. Duplicate notifications must not be sent to participants with dual roles on a single ICP.

1.12 Switching protocol

1.12.1 Traders use the switching protocol whenever a consumer chooses to change the participant supplying them with electricity. It consists of a sequence of messages sent between Traders. The registry co-ordinates switches.

1.12.2 Traders must provide information about a switch to the registry, not directly to the other Trader. It is the responsibility of the registry to pass that information to the other Trader and to keep track of the progress of the switch as it passes through each stage. The registry must acknowledge each message received, store it against the ICP and, once a switch has been successfully completed, it must update the ICP by generating the appropriate events, and send the proper notifications. A Reconciliation event must always be generated to indicate that the Trader responsible for the ICP has changed, but there may also be a Metering event and/or a Status event if the attributes of those event types have been changed as part of the switch.

1.12.3 There is an additional requirement for Distributors and Meter Owners to also receive TN and NC switch messages.

1.12.4 The eight switching messages are:

Code	Name	Purpose
NT	Notification of transfer	Initiate switch.
AN	Acknowledgement of notice	Accept/decline switch. NB: If declined, this is just a warning message. It does not reverse the switch.
TN	Transfer notice non-half-hour	Complete switch for non-half-hour metering or unmetered ICPs.
TT	Transfer notice half-hour	Complete switch for half-hour metering.
NW	Notice of withdrawal request	Request withdrawal of a switch.
AW	Acknowledgement of withdrawal request	Accept or decline withdrawal request.

Code	Name	Purpose
NC	Request switch read change	Request of a switch read change and supply the revised meter readings or permanent estimates.
AC	Acknowledge switch read change	Accept or decline switch read change.

Sequence	Message	Sender	Receiver
1. Half-hour switch	NT	Gaining Trader	Losing Trader
	AN	Losing Trader	Gaining Trader
	TT	Gaining Trader	Losing Trader
2. Non-half-hour and unmetered switch	NT	Gaining Trader	Losing Trader
	AN (optional)	Losing Trader	Gaining Trader
	TN	Losing Trader	Gaining Trader
3. Non-half-hour and unmetered switch	NT	Gaining Trader	Losing Trader
	TN	Losing Trader	Gaining Trader
4. Withdrawal of switch	NW	Either gaining or losing Trader	Other Trader
	AW	Receiver of previous NW	Sender of the previous NW
5. Change switch read	NC	Gaining Trader	Other Trader
	AC	Receiver of previous NC	Sender of the previous NC

1.12.5 Once an NT has been sent, either Traders may elect to withdraw the switch at any time (ie cancel the switch), until the expiry of 2 calendar months after the Event Date of the switch (clause 17 of Schedule 11.3). When a switch is withdrawn after the switch is completed, the registry must reverse the Reconciliation event and any other events that it generated, together with any

events that the losing Trader had inserted, and which now lie within the gaining Trader's period of responsibility.

Switching parameters

1.12.6 Traders must be able to choose the time intervals and the grouping method for the receipt of switching messages. They must be able to elect to receive switch files at specific times during the day, eg 0800, 1100, 1500 and 1800 hours, or choose to have their files delivered as soon as the registry has processed them.

1.12.7 The system must gather all switch messages of the same type into separate files and also provide users with the option of further splitting those files by Trader. For example, all the NT messages relating to ICPs lost to Trader A would be in one file, and all NT messages relating to ICPs lost to Trader B would be in another file.

1.12.8 It is sufficient for Distributors and Meter Owners to receive their TN switching messages daily in one file overnight.

Switching file naming standard

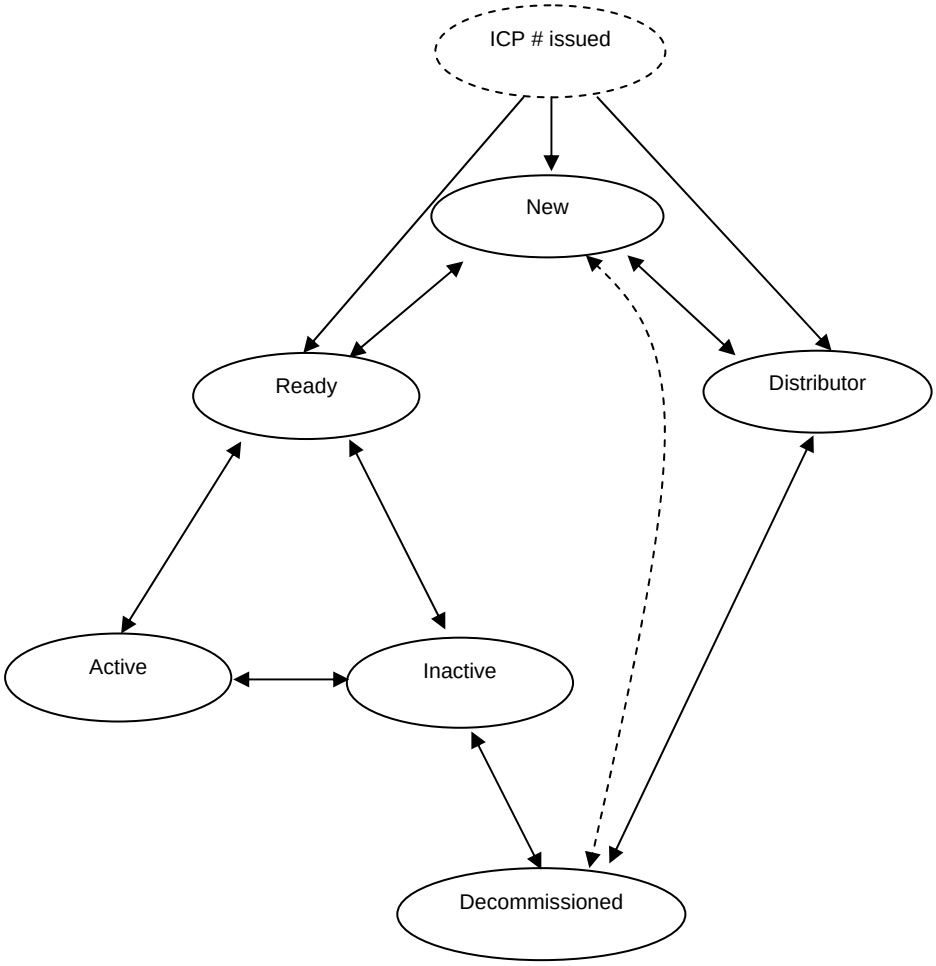
1.12.9 The current file naming standard is defined in the customer switching file protocols. Filenames must have the form: RRCCYYMMDDHHMMSS.txt format where:

Component	Description
RR	A code identifying the file type and therefore the format, eg NT
CCYYMMDD	Century, year, month and day the file was created, eg 20040722
HHMMSS	Time of file creation (24-hour clock), eg 192436

1.13 ICP Status lifecycle

1.13.1 The lifecycle of an ICP is managed by updating the Status attribute of the ICP, which is part of the Status event type. There is a different lifecycle for the two types of ICPs (Distributor-only and Standard ICPs).

Figure 2: ICP lifecycle



Standard ICP business rules

1.13.2 Standard ICP business rules are listed below:

(a) In order for an ICP to be created, the Event Date, ICP Identifier, Network Participant Identifier and Address attributes must have values.

(b) The ICP Identifier must be unique.

(c) Once assigned, the Event Date, Network Participant Identifier and Address attributes cannot be cleared but can be updated.

(d) When an ICP is created with the minimum attributes, it must be given the Status *new* by the system.

(e) The ICP can be created in the *ready* state, without first being in the *new* state, provided there is sufficient information available and the Reconciliation Type is not LE or SI.

(f) Once an ICP is created, the system must allow Distributors and Traders to update information about the ICP in the registry.

(g) An ICP created in error can be decommissioned by the Distributor who created it but only if it has the Status *new*. The Distributor must give a reason for the decommissioning.

(h) When the electrical installation associated with an ICP is ready for connecting to the electricity supply, a Distributor has identified the Trader that has taken responsibility for the ICP, and the ICP has a single Distributor Price Category Code, the system must change the Status of the ICP to *ready*. In the registry, this means that values have been added for the Network Participant Identifier, POC, Reconciliation Type (not LE or SI), Installation Type, Dedicated NSP, Proposed Trader), Distributor Price Category Code and Distributor Loss Category Code.

(i) An ICP can move from *ready* back to *new*, on the removal of any required fields or reversal of the event that made the ICP *ready*.

(j) If an ICP has the Status of *new* or *ready* for 24 calendar months or more, the Distributor must ask the Trader who intends to trade at the ICP whether the ICP should continue to have that Status, and the Distributor must decommission the ICP if the Trader advises the ICP should not continue to have that Status.

(k) If a Distributor has created an ICP in error, the ICP cannot be deleted. The ICP Status must be set to *decommissioned.* The ICP must be in the *new* status before it is changed to the decommissioned Status.

(l) A Trader can only accept responsibility for ICPs that are in the *ready* state. From this point on, a Trader can designate the Status of the ICP

as *active* or *inactive* according to whether the ICP is electrically connected (ie whether electricity can flow at the ICP).

(m) Having accepted responsibility for an ICP through an initial assignment, a Trader must provide the registry with the reconciliation, metering, Status, and other information required by clause 9 of Schedule 11.1 of the Code.

(n) If a Trader's acceptance of responsibility for an ICP that was gained through initial assignment is reversed, the Status of the ICP must be reset to *ready*.

(o) Once a Trader has accepted responsibility for an ICP, the Status cannot be set to *new* or *ready*.

(p) A Distributor can only decommission an ICP assigned to a Trader if the Trader has set the Status to inactive with a Status Reason of de-energised ready for decommissioning ('06'). A Trader can not set the Status to inactive if there is a switch in progress. Decommissioning indicates that that the ICP is permanently removed from future switching and Reconciliation events. Decommissioning occurs when electrical installations associated with the ICP are removed, there is a change in the allocation of electrical loads between ICP with the effect of making the ICP obsolete, or, in the case of a Distributor-only ICP for an embedded network, the embedded network no longer exists.

(q) Once created on the registry, an ICP identifier for an ICP cannot be changed.

Standard ICP Status transitions

1.13.3 The table below details the allowable ICP Status transitions for a Standard ICP.

Transition	Comments
New	Status set by system when the Distributor provides the ICP Identifier, Network Participant Identifier and Address attributes.
Ready	Status set by system when the Distributor provides the ICP Identifier, Network Participant Identifier, Address, POC, Distributor Price Category Code, Reconciliation Type Code (not LE or SI), Installation Type, Dedicated NSP, Proposed Trader (if known) and Distributor Loss Category Code.
New **to** ready	Status set by system when the Distributor adds a POC, Distributor Price Category Code, Reconciliation Type code (not LE or SI), Installation Type, Dedicated NSP, Proposed Trader (if known) and Distributor Loss Category Codes.

Transition	Comments
Ready **to** new	Status set by system when the Distributor removes the POC, Distributor Price Category Code, Reconciliation Type code, metering Installation Type, Dedicated NSP, Proposed Trader (if known) or Distributor Loss Category Code from the ICP, or reverses the event that set the Status from *new* to *ready.*
Ready **to** active | inactive	Status set by Trader taking responsibility for the ICP.
Active | inactive **to** ready	Status set by system when the initial Trader reverses the initial assignment.
Inactive **to** active	Status set by Trader when reconciliation is required for the ICP
Active **to** inactive	Status set by the Trader when reconciliation is no longer required for the ICP.
Inactive **to** decommissioned	Status set by the Distributor when the ICP has been disconnected from the network. Disallowed unless the Trader updated the Status Reason to de-energised ready for decommissioning ('06') or if there is a switch in progress for the ICP.
Decommissioned **to** inactive	Status reversed by the Distributor to correct a decommissioning error.
New **to** decommissioned	Status set by the Distributor during the pre-commissioning phase if the ICP was created in error.
Decommissioned **to** new	Status reversed by the Distributor during the pre-commissioning phase to correct a previous error.

Distributor-only ICP business rules

1.13.4 Distributor-only ICP business rule are listed below:

(a) In order for an ICP to be created, the Event Date, ICP Identifier, Network Participant Identifier and Address attributes must have values.

(b) The ICP Identifier must be unique.

(c) Once assigned, the Event Date, Network Participant Identifier and Address attributes cannot be cleared but can be updated.

(d) When an ICP is created with the minimum attributes, it must be given the Status *new* by the system.

(e) The ICP can be created in the *distributor* state, without first being in the *new* state, provided there is sufficient information available and the Reconciliation Type is LE or SI.

(f) Once an ICP is created, the system must allow Distributors to update information about the ICP in the registry.

(g) The Distributor who creates the ICP can decommission the ICP if the ICP was created in error. The Distributor must give a reason for the decommissioning.

(h) When information has been added in respect of the Network Participant Identifier, POC, Reconciliation Type, Installation Type, Dedicated NSP and Distributor Loss Category Code, the system must change the Status of the ICP to *distributor*.

(i) An ICP can move from *distributor* back to *new* Status, on the removal of any required fields or reversal of the event that made the ICP Distributor-only.

(j) If the Distributor has created the ICP in error it cannot be deleted. The ICP Status must be set to *decommissioned*.

Distributor-only ICP Status transitions

1.13.5 The table below details the allowable Status transitions for a Distributor-only ICP.

Transition	Comments
New	Status set by system when the Distributor provides the ICP Identifier, Network Participant Identifier and Address
Distributor	Status set by system when the Distributor provides the ICP Identifier, Network Participant Identifier, Address, POC, Reconciliation Type code (LE or SI), Installation Type, Dedicated NSP, and Distributor Loss Category Code.
New **to** distributor	Status set by system when the Distributor adds a POC, Reconciliation Type code (LE or SI), Installation Type, Dedicated NSP and Distributor Loss Category Code.
Distributor **to** new	Status set by system when the Distributor removes the POC, Reconciliation Type code, Installation Type, Dedicated NSP or Distributor Loss Category Code from the ICP, or reverses the event that set the Status from *new* to *distributor.*
Distributor **to** decommissioned	Status set by the Distributor when the ICP has been disconnected from the network
Decommissioned **to** distributor	Status reversed by the Distributor to correct a decommissioning error

Transition	Comments
New **to** decommissioned	Status set by the Distributor during the pre-commissioning phase if the ICP was created in error
Decommissioned **to** new	Status reversed by the Distributor during the pre-commissioning phase to correct a previous error

1.14 Participants and registry roles

1.14.1 A number of participants require access to the registry for various business purposes. The Authority manages the process by which participants are registered and arranges for Participant Identifiers to be assigned to participants and for participants to have access to the system. The level of access to the system will depend on the participant's 'role'. The different roles and the individual registry responsibilities and requirements of each role are listed below.

Distributors

1.14.2 Distributors are responsible for creating ICP Identifiers for new ICPs and putting information about the ICP in the registry, managing the pre-commissioning process, decommissioning ICPs, and updating information about the ICPs' Network, Address and Distributor pricing. Distributors use the registry to keep track of the Traders using their network in order to bill them correctly. They need to be able to:

(a) create ICP Identifiers for new ICPs;

(b) update network connection information;

(c) update Distributor pricing information;

(d) update Address information;

(e) check metering installation details (if they are also Meter Owners);

(f) check reconciliation information (current Trader);

(g) check Status information;

(h) locate an ICP using an address search;

(i) record when an ICP has been decommissioned;

(j) check their acknowledgements from the registry confirming whether information they provided to the registry was processed successfully or not;

(k) extract details of all ICPs currently recorded as being owned by the Distributor;

(l) extract details of all ICPs that were owned by the Distributor during a period which were also owned by a specific Trader. The information is required to calculate line charges payable by Traders (he calculation is performed outside the registry);

(m) view and extract a history of changes, including audit details, made to specific ICPs during a period;

(n) check notifications of changes to ICP information made by Traders;

(o) check notifications of switches indicating a change of Trader;

(p) receive TN and NC switch transaction notifications;

(q) check if they have breached any information requirements specified in the Code;

(r) view and download the latest NSP mapping table details;

(s) maintain, download and view their pricing and loss categories; and

(t) manage the logons, access restrictions and passwords of their own users of the registry.

Traders

1.14.3 Traders are responsible for the maintenance of reconciliation, metering and Status information. Traders use the registry to keep track of the ICP for which they have accepted responsibility, to process switches, and to update metering information about ICPs for which they are responsible. Traders may also be Meter Owners in their own right and need to be informed of metering information changes made by other Traders on their behalf. Traders need to be able to:

(a) locate an ICP using an address search facility;

(b) update metering installation details;

(c) update reconciliation information (Profiles);

(d) update Status information;

(e) check network connection information;

(f) check Distributor pricing information;

(g) check Address information;

(h) check their acknowledgements from the registry confirming information they provided to the registry was processed successfully or not;

(i) extract details of all ICPs that they are recorded as having accepted responsibility for;

(j) extract details of all ICPs that they were responsible for during a period;

(k) receive monthly reports used for reconciliation purposes – ICP days report, HHR ICP list and loss factors report;

(l) view and extract a history of changes, including audit details, made to specific ICPs over a period;

(m) check notifications of changes to ICP information made by Distributors relating to ICPs they are recorded as having accepted responsibility for;

(n) send and receive switch requests, acknowledgements, transfer notices, withdrawal requests, withdrawal acknowledgements, switch read requests and switch read acknowledgements;

(o) check when switching events are due to be sent to the registry for switches that are yet to be completed;

(p) check if they have breached any information requirements specified in the Code;

(q) view and download the latest NSP mapping table details;

(r) view and download pricing and loss categories per Distributor; and

(s) manage the logons, access restrictions and passwords of their own users of the registry.

Meter Owners

1.14.4 Meter Owners are not currently required to provide any information about ICPs to the registry. Information about metering equipment to which an ICP is connected is provided by Traders. Under the Code, Meter Owners are only required to receive notification of switch completions. However, Meter Owners also use the registry to keep track of their own ICPs and to check the metering information included on the registry by Traders. They can also choose to be informed of metering information changes made by Traders in respect of ICPs to which their metering equipment is connected. Meter Owners need to be able to:

(a) locate an ICP using an address search facility;

(b) check metering installation details online;

(c) check reconciliation information online (Trader and Profile information);

(d) check Status information online;

(e) check network connection information online;

(f) check Distributor pricing information online;

(g) check Address information online;

(h) extract details of all ICPs that they are currently recorded as being connected to metering equipment that they own;

(i) view and extract a history of changes, including audit details, made to specific ICPs during a period;

(j) check notifications of changes to ICP information made by Distributors and Traders to ICPs connected to metering equipment that they own;

(k) receive TN and NC switch transaction notifications; and

(l) manage the logons, access restrictions and passwords of their own users of the registry.

Electricity Authority

1.14.5 The Authority requires access to ICP information to check the accuracy of the information and participants' compliance with the Code. It needs to be able to:

(a) locate an ICP using an address search facility;

(b) check metering installation details;

(c) check reconciliation information (Trader and Profile information);

(d) check Status information;

(e) check network connection information;

(f) check Distributor pricing information;

(g) check Address information;

(h) check if there have been any breaches of any switching or event maintenance timeframes set out in the Code. The event maintenance compliance report is required to be delivered to the market administrator by 1600 hours on the first business day of each calendar month;

(i) extract details of all ICPs currently recorded as being owned by or the responsibility of a particular participant;

(j) extract details of all ICPs that were owned by or the responsibility of a participant during a period;

(k) view and extract a history of changes made to specific ICPs over any given period;

(l) view and download the latest NSP mapping table details;

(m) view and download pricing and loss categories per Distributor; and

(n) manage the logons, access restrictions and passwords of its own users of the registry.

Reconciliation manager

1.14.6 It is the responsibility of the Reconciliation Manager to obtain information from the registry for use in the reconciliation process and to maintain and publish the NSP mapping table used in the registry. It is each Distributor's responsibility to notify the Reconciliation Manager of changes to its NSPs and associated information such as balancing areas.

1.14.7 Clause 30(2) of Schedule 11.1 of the Code requires the publication of an updated schedule of all NSP identifiers and any supporting information within 1 business day of any change being notified to the Reconciliation Manager.

1.14.8 The Reconciliation Manager therefore needs to be able to:

(a) receive monthly reports – ICP days report, HHR ICP list, loss factors report and the latest NSP mapping table details;

(b) have a facility to receive and update NSP information provided under Part 11 of the Code;

(c) have an online viewing and download facility of the NSP mapping table information to be provided by the registry for all registry users;

(d) check if it has breached any requirements specified in the Code; and

(e) view and download pricing and loss categories per Distributor.

Clearing manager, system operator, and Reconciliation Manager

1.14.9 If requested by the clearing manager, system operator, or Reconciliation Manager, the registry is required to deliver an active NSPs report to the by 1600 hours on the first business day the calendar month following the calendar month in which the request was made.

1.14.10 The system operator may request a report setting out every switch made, the effect of which is that a Trader has commenced trading at an NSP or a Trader has ceased trading at an NSP.

Registry manager

1.14.11 The registry manager is required to maintain the static tables that are part of the registry system, such as the Profiles of Traders, Distributors, and Meter Owners.

1.15 User interfaces

1.15.1 The registry is an internet-based system with two user interfaces to the system: an online interface for single updates; and a batch interface for multiple updates and reports. The functionality of both interfaces must be identical unless otherwise stated.

Current online interface

1.15.2 The current online interface is via a standard web browser or, if preferred by the participant, by means of a proprietary web client application available from the present registry supplier.

Current batch interface

1.15.3 Currently, the batch interface consists of CSV formatted files sent to and from the registry via FTP. The registry maintains separate FTP directories for every participant from which it receives input files and to which it delivers output files. It is up to the user to access these files and transfer them to their own systems.

1.15.4 The files currently sent to the registry by users are:

(a) ICP event maintenance files;

(b) report requests; and

(c) switching protocol messages.

1.15.5 The files currently received by users from the registry are:

(a) acknowledgements of event updates (as a result of the processing of ICP event maintenance files and online updates);

(b) notifications of updates;

(c) switching protocol messages; and

(d) reports.

File naming convention

1.15.6 There is a file naming convention employed by users sending report and maintenance requests to the registry when using the batch interface. The registry uses a file naming convention when delivering files to users. These conventions are used by users' automation systems to identify the types of information the files contain and the processing date/time. Any new file naming convention must ensure files have unique names and are delivered to the correct party.

Batch file headers

1.15.7 Currently, the first record in every file sent to and received from the registry is a comma separated 'header' record which identifies the type of information the file contains plus such information as the number of detail records, the sender, the date/time sent and reference information.

1.15.8 Refer to appendix 4 for batch file specifications.

Batch selection criteria

1.15.9 The current process used to provide selection criteria for report requests is to list the selection criteria immediately after the 'header' in the report request file using a specified format.

Back-office systems

1.15.10 It should be noted that currently all the back-office automation systems used by participants have been developed around the above architecture, conventions and file structures. There are no direct system-to-system interfaces at present.

Errors

1.15.11 When errors are reported to users by the system, the information provided must be sufficiently detailed for users to be able to identify and rectify the problem easily. All error codes, error descriptions and fixing tips should be published and kept up to date.

1.16 Security

1.16.1 Access to the registry is restricted to Authority-approved parties. The approval process is co-ordinated by the Authority and communicated to the registry, Reconciliation Manager and Clearing Manager. Participants are assigned a unique Participant Identifier that is communicated to those market operation service providers for inclusion in their systems.

1.16.2 Participants are required to specify their intended roles as part of the approval process. The roles that are of interest to the registry are the roles of Trader, Distributor and Meter Owner. A participant's role dictates what registry functions are to be made available to the participant. It is possible for one participant to have more than one role. The combinations supported using one Participant Identifier should be:

Primary role	Distributor	Trader	Meter Owner
Distributor	Y	N	Y
Trader	N	Y	Y
Meter Owner	N	N	Y

1.16.3 Once a Participant Identifier has been assigned to a participant, access to the registry is managed by a supervisor designated by the participant. The supervisor is required to:

(a) assign new logons;

(b) assign access rights to logons. Access rights permit users to:

(i) read-only (online functions);

(ii) submit ICP event information;

(iii) submit particular switching messages; and

(iv) submit particular reports;

(c) disable logons; and

(d) assign an agent to act on the participant's behalf.

1.16.4 Other security requirements are listed below.

(a) The registry should be able to identify individual participant logon identities and log the identity against updates made online.

(b) A participant may nominate another party to act on its behalf (an agent). The system must be able to identify the participant an agent is acting for when evaluating whether that agent is allowed to perform an update.

(c) A single logon must support the role of agent, and the participant’s role.

(d) A single logon must be supported when a participant has more than one role, ie if a participant is both a Distributor and a Meter Owner then they should be able to input/maintain a single ICP at which they have both roles or just one of those roles.

1.17 EIEP Exchange

1.17.1 The EIEP Transfer is a central secure delivery mechanism for all EIEP formats using FTPS encrypted transfer. Access is available through the online and batch interfaces, and is restricted to approved participant organisations. Authentication relies upon participants' existing Registry access credentials.

1.17.2 The following sub-processes are related to the EIEP Exchange.

Sub-Process	Description
EI-010 EIEP Transfer Settings	Supervisor configuration of optional EIEP delivery and acknowledgement parameters.
EI-020 Upload and Download	Online send and receipt of EIEP files.
EI-030 EIEP Transfer	EIEP file delivery from a sender's FTPS outbox to a recipient's inbox
QU-040 View Registry Audit Data	Search and view details of EIEP transfer receipts, deliveries, acknowledgements and notifications.

1.18 Web Services

1.18.1 Access to address search and ICP event history and details enquiries are provided via Web Services. The facility is required so as to provide Traders with a more efficient way for their CSRs to access the Registry.

2. Process maps

Figure 3: Process map – ICP event Distributor and Trader maintenance

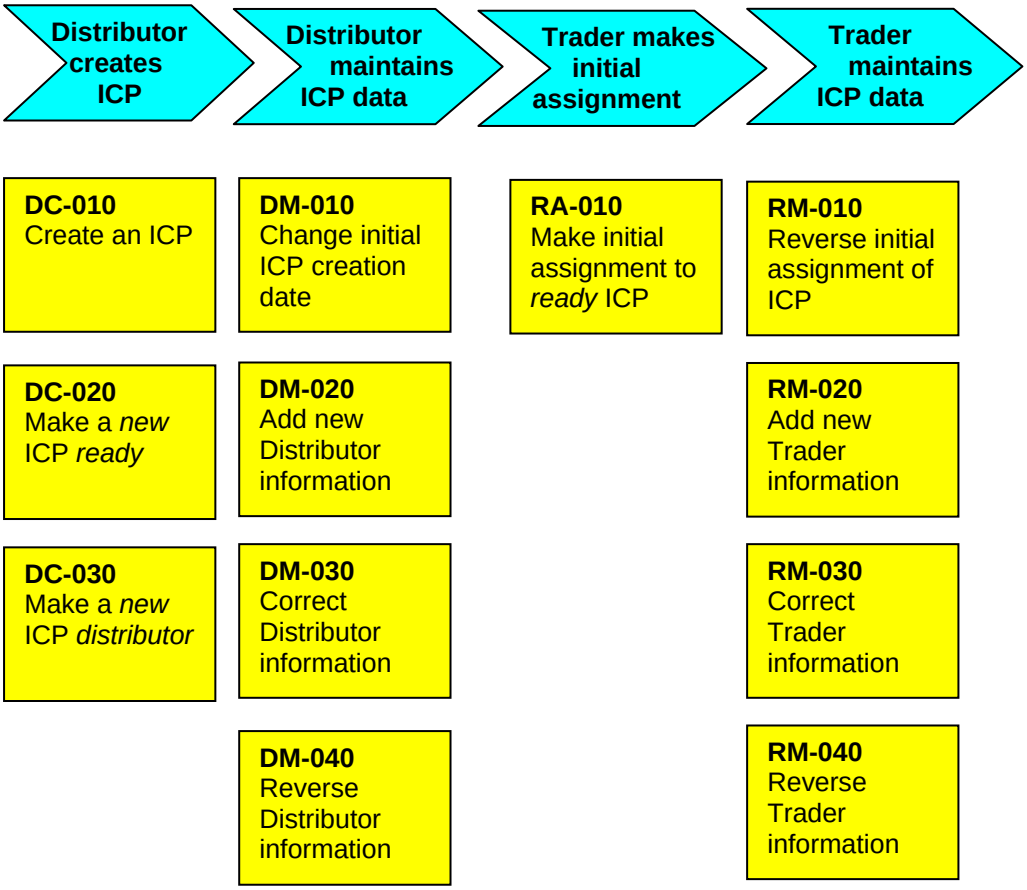


Figure 4: Process map – switching

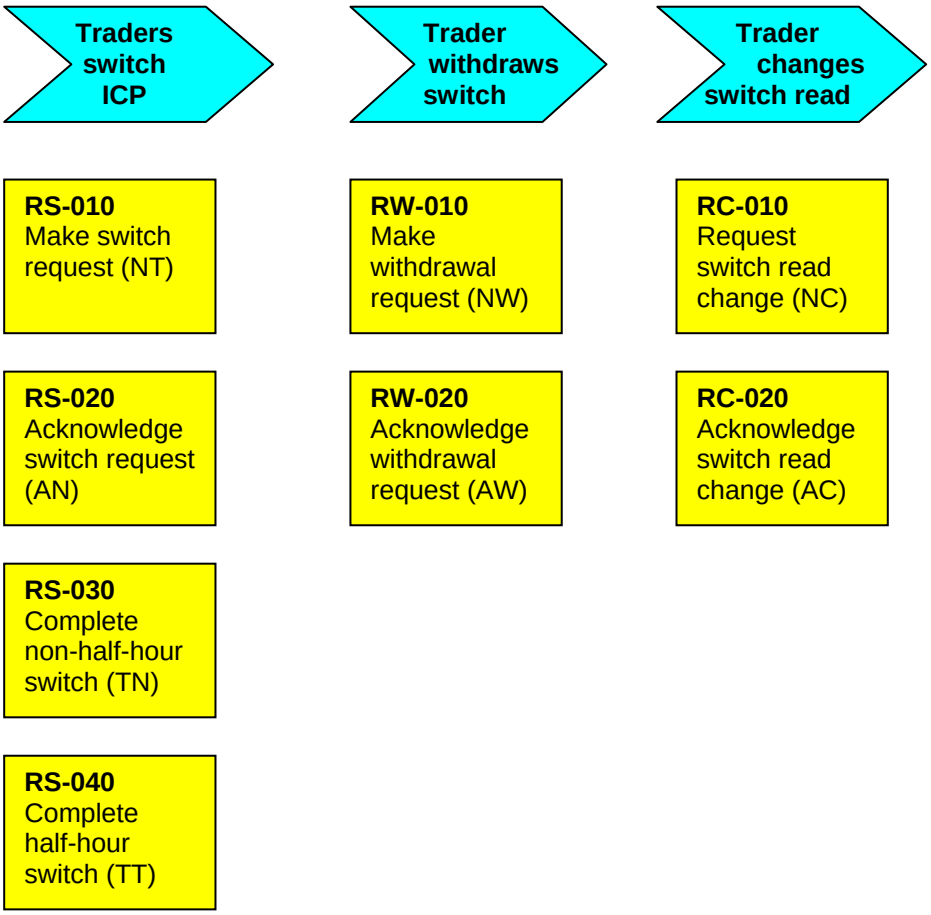


Figure 5: Process map – reporting, parameters, notifications and queries

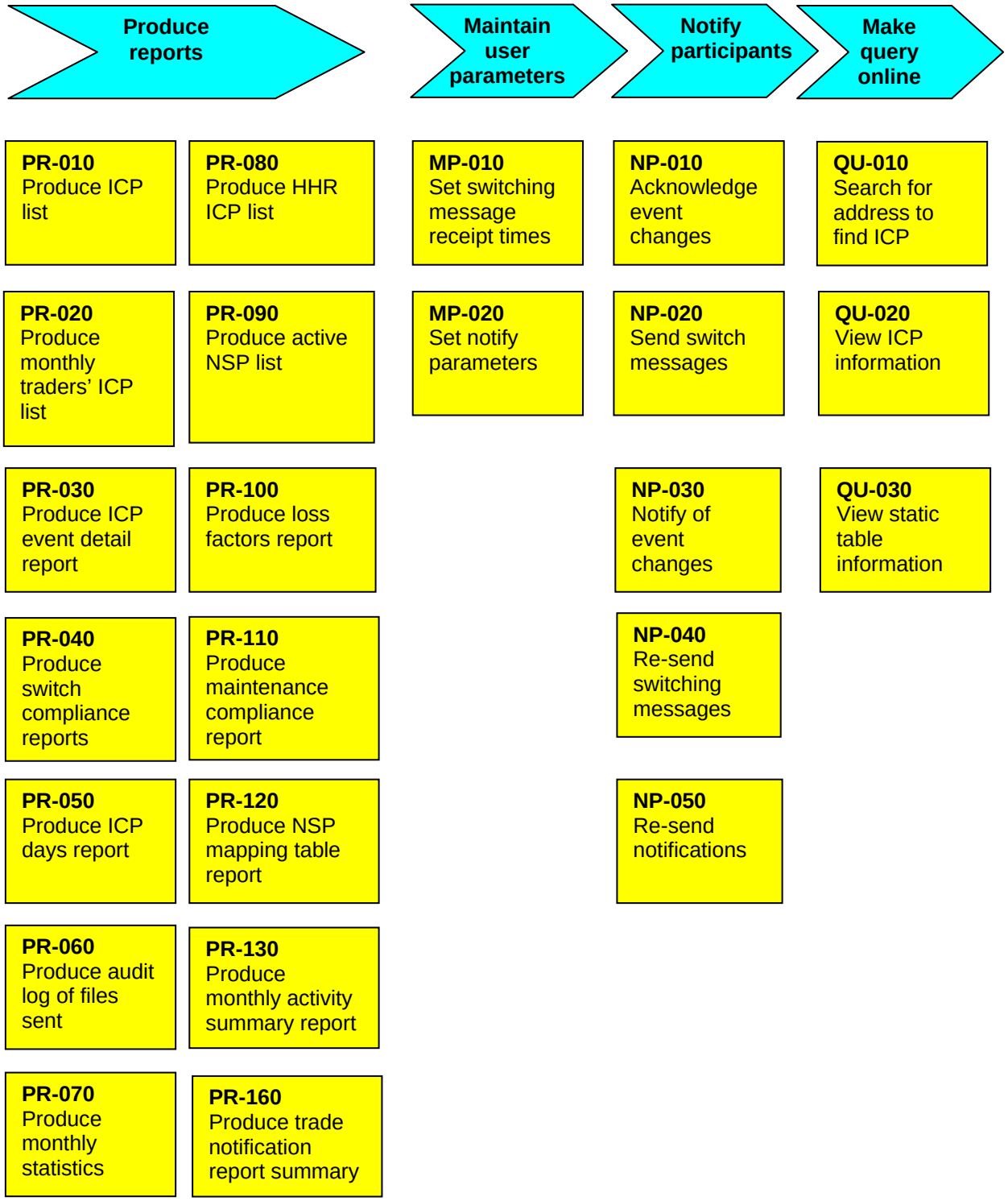
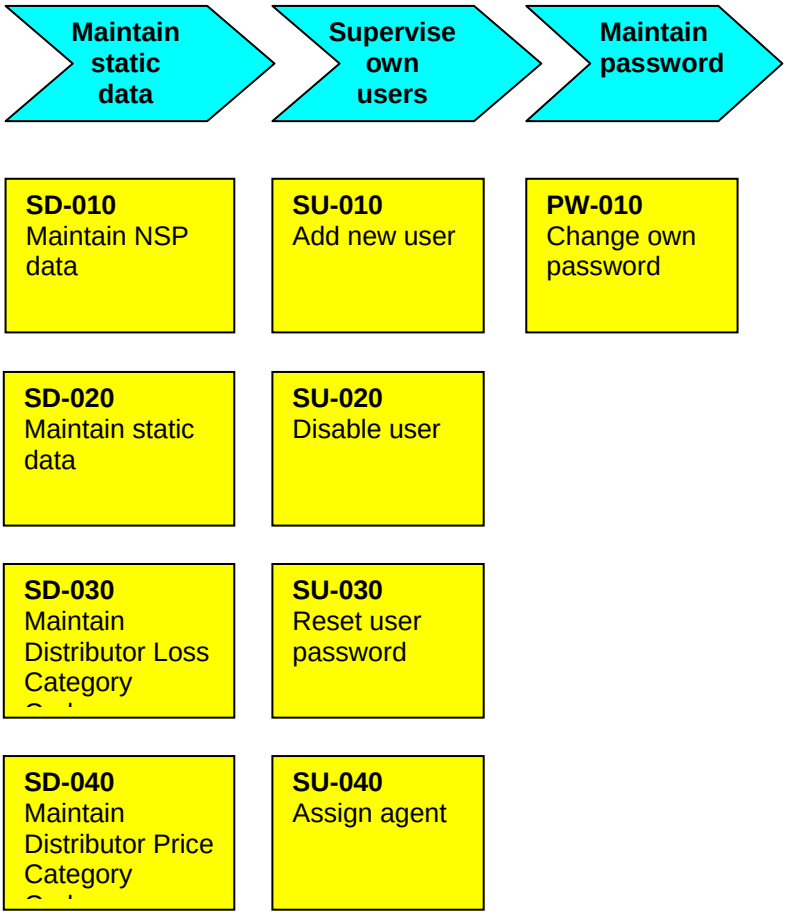


Figure 6: Process map – maintaining static data and access security



3. Sub-processes

3.1 ICP event maintenance – Distributor

Sub-process:	**DC-010 Create an ICP**
Process:	Distributor creates an ICP Identifier for an ICP and manages the Status of the ICP
Participants:	Distributors
Code references:	Clauses 11.3 to 11.9, and clauses 7 and 12 to 20 of Schedule 11.1 of the Code
Dependencies:	DC-020

Description:
A Distributor must create an ICP Identifier for certain points of connection, and provide information about the ICP to the registry. Depending on how much and what information the Distributor enters, the system will either set the Status of the ICP to be *new* or *ready* or *distributor*.

Business requirements:

1. Only Distributors or their agents can create ICP Identifiers for ICPs.
2. The system must determine the correct Status and type to assign to the ICP from the information provided by the Distributor.
3. In order for the ICP to have the *new* Status, the Distributor must enter values for at least the ICP Identifier, Network Participant Identifier and Address attributes.
4. In order for a Standard ICP to be created on the system with *ready* Status, the Distributor must enter values for at least the ICP identifier, Network Participant Identifier, Address attributes, POC, Dedicated NSP, Installation Type, Reconciliation Type (not LE or SI), Distributor Price Category Code, Distributor Loss Category Code and Proposed Trader Participant Identifier.
5. In order for a Distributor-only ICP to be created on the system with *distributor* Status, the Distributor must enter at least the ICP Identifier, Network Participant Identifier, Address attributes, POC, Dedicated NSP, Installation Type, Reconciliation Type (LE or SI) and Distributor Loss Category Codes.
6. Network Participant Identifiers must be valid for the Distributor by reference to the NSP mapping table.
7. Network Participant Identifier and POC combinations must be a valid NSP combination for the Distributor as the NSP owner.
8. A Network, Address and Status event must be generated and all of them must have the same Event Date, which will be deemed to be the creation date for the ICP.
9. When a Pricing event is generated for an ICP with a *ready* or *distributor* Status, it must have an

Event Date that is on or after the ICP creation date.

10. A Proposed Trader, if known, is an affected participant for notification purposes.

Data inputs: **Each attribute on an input line is comma separated.**			
Attributes input	**Format**	**Mandatory/ optional**	**Comments**
Record Type	Char 3	M	Must be “DET”
ICP Identifier	Char 15	M	
Network event:			
Network Event Date	DD/MM/YYYY	M	
Network User Reference	Char 32	O	
Network	Char 4	M	Valid Participant Identifier for Distributor.
POC	Char 7	O	Valid POC for Distributor.
Reconciliation Type	Char 2	O	Valid Reconciliation Type for Distributor and ICP type.
Dedicated NSP	Char 1	O	
Installation Type	Char 1	O	Valid type [L, G, or B].
Proposed Trader	Char 4	O	Valid Trader Participant Identifier.
Unmetered Load Details – Distributor	Char 50	O	
Shared ICP List	List	O	
Reverse Network Event	Char 1	O	Used only in DM-040, R or blank
Pricing event:			
Pricing Event Date	DD/MM/YYYY	M/O	Mandatory if any attribute in the event is input.
Pricing User Reference	Char 32	O	
Distributor Price Category Code	Char 50	O	
Distributor Loss Category Code	Char 7	O	
Distributor Installation Details	Char 30	O	
Chargeable Capacity	Numeric 7.2	O	

Reverse Pricing Event	Char 1	O	Used only in DM-040. R or blank
Address event:			
Address Event Date	DD/MM/YYYY	M	
Address User Reference	Char 32	O	
Physical Address Unit	Char 20	O	
Physical Address Number/ RAPID Number	Char 25	O	
Physical Address Street	Char 30	M/O	Mandatory if Property Name not input.
Physical Address Suburb	Char 30	M/O	Mandatory if Town not input.
Physical Address Town	Char 30	M/O	Mandatory if Suburb not input.
Physical Address Post Code	Numeric 4	O	
Physical Address Region	Char 20	M	
Address Property Name	Char 75	M/O	Mandatory if Street not input.
Reverse Address Event	Char 1	O	Used only in DM-040. R or blank
Example: HDR,RQNETMAINT,POCO,RGST,09/07/2007,23:57:59,1,update an ICP DET,99999999999AB123,01/01/2009,NetworkUserRef,NETA,ABCD123,GN,N,B,RETA,UnmeteredDetail,,01/01/2009,PricingUserRef,Pcat1,Lcat1,InstallDet,1234567.12,,01/01/2009,AddressUserRef,Unit1,678,Perkins,Ohau,Tekapo,7797,Canterbury,,			

Processing:
System 1. Validates the attributes and checks their dependencies. The minimum attributes required for the creation of an ICP with a Status of *new* are: – an ICP Identifier; – an Address; and – a Network Participant Identifier (part of the NSP identifier) with an associated Event Date. More attributes than those above may be supplied and the ICP will still be created with a Status of *new* but when **all** of the following attributes (together with their appropriate Event Dates) are provided, then the ICP will be created with a Status of *ready* or *distributor* (depending on the Reconciliation Type input): – POC; – Reconciliation Type; – Dedicated NSP

- Installation Type;
- Proposed Trader (not required for Distributor-only ICPs);
- Distributor Price Category Code (not required for Distributor-only ICPs); and
- Distributor Loss Category Code.

The following optional attributes can also be provided which have no bearing on the Status of the ICP:

- Chargeable Capacity;
- Distributor Installation Details;
- Unmetered Load Details – Distributor; and
- Shared ICP List (Distributor-only ICPs).

2. Generates a Network event and an Address event using the attributes supplied.
3. If any pricing information is supplied, generates a Pricing event.
4. Generates a Status event with the appropriate Status and an Event Date that is the same as the Network event.
5. Completes the audit trail information for each event.
6. Generates notifications to the Distributor and the Proposed Trader (Standard ICPs only).
7. Generates acknowledgements to the Distributor for each event.

Data outputs:
With the minimum attributes, an ICP with a Network event, Address event, Status event and associated audit trail information. If more than the minimum attributes are provided, that include any from the Pricing event, then the ICP will be created with an additional Pricing event. Notifications. An acknowledgement for each event.

Sub-process:	**DC-020 Make a *new* ICP *ready***
Process:	Distributor updates information about an ICP
Participants:	Distributors
Code references:	Clauses 11.7 and 11.8, and clauses 7 and 12 to 20 of schedule 11.1 of the Code
Dependencies:	

Description:
A Distributor progressively provides information about an existing Standard ICP in the *new* state to the registry until the system has sufficient information to change the Status to *ready*.

Business requirements:

1. Only Distributors or their agents must provide information required by clause 7 of schedule 11.1 of the Code in respect of ICPs.
2. At the pre-commissioning stage, the ICP Status must be a system-assigned attribute and must not be able to be set by a Distributor.
3. The combination of the values for the Network Participant Identifier and POC must be a valid combination in the NSP mapping table for the Distributor as the NSP owner.
4. In order for a Standard ICP to be created on the system with *ready* Status, the Distributor must enter at least information about the ICP Identifier, Address, Network Participant Identifier, POC, dedicated ICP, Installation Type, Reconciliation Type (not LE or SI), Distributor Price Category Code, Distributor Loss Category Code and Proposed Trader.
5. The Pricing event generated must have an Event Date that is on or after the ICP creation date.
6. The Trader proposed as Proposed Trader must be classed as an affected participant for notification purposes.

Data inputs:

Sufficient attributes (note that the Address event is assumed to be present):

Network Participant Identifier, POC, Installation Type, Dedicated NSP, Reconciliation Type and Proposed Trader with an associated Event Date; and

Distributor Price Category Code and Distributor Loss Category Code with an associated Event Date.

Optional extra attributes:

Chargeable Capacity;

Distributor Installation Details; and

Unmetered Load Details – Distributor. See sub-process DC-010 for minimum input details.
Processing:
System 1. Validates all attributes and checks their dependencies. 2. Generates events of the appropriate types based on the attributes supplied. 3. Generates a Status event with a *ready* Status and an Event Date the same as that of the Network event. 4. Completes the audit trail information for each event. 5. Generates notifications to the Distributor and the Proposed Trader. 6. Generates an acknowledgement to the Distributor for each event.

Data outputs:
Network, Status and Pricing events and associated audit trail information. Notifications. Acknowledgements.

Sub-process:	**DC-030 Make a *new* ICP *distributor***
Process:	Distributor updates information about an ICP
Participants:	Distributors
Code references:	Clauses 11.7 and 11.8, and clauses 7 and 12 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
A Distributor progressively provides information about an existing Distributor-only ICP in the *new* state to the registry until the system has sufficient information to change the Status to *distributor*.

Business requirements:

1. Only Distributors (or their agents) must provide information required by clause 7 of Schedule 11.1 of the Code in respect of ICPs.
2. At the pre-commissioning stage, the ICP Status must be a system-assigned attribute and must not be able to be set by a Distributor.
3. The combination of the values for the Network Participant Identifier and POC must be a valid combination in the NSP mapping table for the Distributor as the NSP owner.
4. In order for a Distributor-only ICP to be created on the system with *distributor* Status, the Distributor must enter at least information about the ICP Identifier, Address, Network Participant Identifier, POC, dedicated ICP, Installation Type, Reconciliation Type (LE or SI) and Distributor Loss Category attributes.
5. The Pricing event generated must have an Event Date that is on or after the ICP creation date.

Data inputs:
Sufficient attributes (note that the Address event is assumed to be present): Network Participant Identifier, POC, Installation Type, Dedicated NSP, and Reconciliation Type with an associated Event Date; and Distributor Loss Category Code with an associated Event Date. Optional extra attributes: Chargeable Capacity; Distributor Installation Details; Unmetered Load Details – Distributor; and Shared ICP List. See sub-process DC-010 for minimum input details.

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Generates events of the appropriate types based on the attributes supplied. 3. Generates a Status event with a *distributor* Status and an Event Date the same as that of the Network event. 4. Completes the audit trail information for each event. 5. Generates notifications to the Distributor. 6. Generates an acknowledgement to the Distributor for each event.

Data outputs:
Network, Status and Pricing events and associated audit trail information. Notifications. Acknowledgements.

Sub-process:	**DM-010 Change initial ICP creation date**
Process:	Distributor updates information about an ICP
Participants:	Distributors
Code references:	Clauses 11.7 and 11.8, and clauses 7 and 12 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
The Distributor moves the ICP creation date to an earlier date.

Business requirements:
1. The ICP must be in the pre-commissioning stage, ie it must have either a *new* or *ready* or *distributor* Status. 2. The Distributor must have owned the ICP on creation date. 3. The new creation date must be before the current creation date.

Data inputs: **Each attribute on an input line is comma separated**			
Attributes input	Format	Mandatory/ optional	Comments
Record Type	Char 3	M	Must be “DET”
ICP Identifier	Char 15	M	
Event Date	DD/MM/YYYY	M	
User Reference	Char 32	O	
<u>Example:</u> HDR,RQDATECHG,CTCT,RGST,01/12/2002,16:44:11,2,Correct Initial Date DET,9999999999AB123,01/01/2009,Change date user ref			

Processing:
System 1. Validates the new Event Date. 2. Checks that this Distributor is allowed to make this change. 3. Generates new ‘creation’ network, Address and Status events and a Pricing event, if present, using all the attributes from the ‘old’ events but with the earlier Event Date. 4. Completes the audit trail of all new and old events marking the ‘old’ events as *replaced*. 5. Determines the affected participants and generates the appropriate, requested notifications. 6. Generates acknowledgements to the Distributor for each event.
Data outputs:
New network, Address, Status and possibly Pricing events with the associated audit trail information. Updated, old network, Address, Status and possibly Pricing events with the associated audit trail information. Notifications. Acknowledgements.

Sub-process:	**DM-020 Add additional Distributor information**
Process:	Distributor updates information about an ICP
Participants:	Distributors
Code references:	Clauses 11.7 and 11.9, and clauses 7 and 12 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
The Distributor adds one or more new events to an ICP. The event(s) may either represent a change to the current information stored for the ICP, eg a new Distributor Price Category Code, or may be information that should have been entered previously but was missed (historical insertion). The event is not for an existing Event Date.

Business requirements:

1. Distributors are solely responsible for the network, Address and Pricing information.
2. Distributors may add a Status event setting the Status to *decommissioned* but only if the ICP is in the *new or distributor* states or in the *inactive* state with the Status Reason set to de-energised ready for decommissioning ('06').
3. There must be no inheritance of attribute values from prior events, and all mandatory attributes must be provided for any event that is inserted, as a minimum.
4. Distributors must only be allowed to insert events within their period of ownership.
5. An event must not be inserted if that would invalidate other prior events, eg an ICP Status event with a Status of *decommissioned* may not be inserted after a Status event that set the Status to *active.* Also, Reconciliation Types that would change the type of ICP cannot be changed.
6. Events must not be able to be inserted for dates prior to the ICP creation date.
7. The Event Dates of different events inserted by the user at the same time must be allowed to be different.
8. It must be possible for Distributors to revert *ready* or *distributor* ICPs to *new* by inserting new events with blank (empty) values in any of the attributes required to make the ICPs' Status *ready* or *distributor*, eg by inserting a Pricing event with a blank Distributor Loss Category Code. (Note that this function must be able to be performed 'historically', i.e. prior to the latest Event Date.)
9. Once the ICP has been assigned to a Trader, no further notifications must be sent to any Proposed Trader of the ICP.

Data inputs:			
One or more of: Network information; Pricing information; Address information; or Status information. Each attribute on an input line is comma separated. The minimum information input for each event is as follows:			
Event data	**Format**	**Mandatory/ optional**	**Comments**
Record Type	Char 3	M	Must be “DET”
ICP Identifier	Char 15	M	
Network event:			
Network Event Date	DD/MM/YYYY	M/O	A blank date indicates that event is not being input.
Network User Reference	Char 32	O	
Network Participant Identifier	Char 4	M	Valid participant identifier for Distributor.
POC	Char 7	M	Valid POC for Distributor.
Reconciliation Type	Char 2	M	Valid Reconciliation Type for Distributor and ICP type.
Dedicated NSP	Char 1	M	
Installation Type	Char 1	M	Valid type {L, G, B}.
Proposed Trader	Char 4	O	Valid Participant Identifier for Trader.
Unmetered Load Details - Distributor	Char 50	O	
Shared ICP List	List	O	
Reverse network Event	Char 1	O	Valid for DM-040 only. R or blank
Pricing event:			
Pricing Event Date	DD/MM/YYYY	M/O	A blank date indicates that event is not being input.
Pricing User Reference	Char 32	O	
Distributor Price Category code	Char 50	M	

Data inputs:			
Distributor Loss Category Code	Char 7	M	
Distributor Installation Details	Char 30	O	
Chargeable Capacity	Numeric 7.2	O	
Reverse Pricing Event	Char 1	O	Valid for DM-040 only. R or blank
Address event:			
Address Event Date	DD/MM/YYYY	M/O	A blank date indicates that event is not being input.
Address User Reference	Char 32	O	
Physical Address Unit	Char 20	O	
Physical Address Number/ RAPID number	Char 25	O	
Physical Address Street	Char 30	M/O	Mandatory if Property Name not input.
Physical Address Suburb	Char 30	M/O	Mandatory if Town not input.
Physical Address Town	Char 30	M/O	Mandatory if Suburb not input.
Physical Address Post Code	Numeric 4	O	
Physical Address Region	Char 20	M	
Address Property Name	Char 75	M/O	Mandatory if Street not input.
Reverse Address Event	Char 1	O	Valid for DM-040 only. R or blank
Status event:			This event can only be input by a Distributor when an ICP is being decommissioned.
Event Date	DD/MM/YYYY	M	A blank date indicates that event is not being input.
User Reference	Char 32	O	
ICP Status	Char 3	M	Only decommissioned Status events allowed to be input by Distributors.
Status Reason	Numeric 2	M/O	Mandatory if ICP Status decommissioned. Valid Status Reason codes are 01, 02 or 03.
Reverse Status Event	Char 1	O	Valid for DM-040 only. R or blank

Data inputs:
Example DET,9999999999AB123,01/01/2009NetUserRef,NETA,ABC0111,GN,N,B,RETA,UnMeteredDetails,,,01/01/2009,PriceUseRef,PCat1,LCat1,InstalDetails,1234567.23,,01/01/2009,AddressUserRef,Unit1,669,Falloon Street,Kingston,Twizel,7781,Canterbury,The Lodge,,01/01/2009,StatusUSerRef,3,01,,

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that this Distributor is allowed to make this change. 3. Adds the events supplied by the Distributor. 4. Completes the audit trail information for each event added. 5. Determines the affected participants and generates notifications for them, if the settings of their notification parameters indicate they require them. 6. Generates acknowledgements to the Distributor for each event.

Data outputs:
New Network event and/or Address event and/or Status event and/or Pricing event with the associated audit trail information. Notifications. Acknowledgements.

Sub-process:	**DM-030 Correct Distributor information**
Process:	Distributor updates information about an ICP
Participants:	Distributors
Code references:	Clauses 11.2, 11.7 and 11.8, and clauses 7 and 12 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
The Distributor corrects values of attributes entered incorrectly in one or more existing events recorded for an ICP.

Business requirements:

1. Distributors are solely responsible for maintaining the network, Address and Pricing information.
2. Corrections may be made to both historical and current events.
3. More than one event can be corrected at the same time.
4. The Distributor may not correct the Status attribute of a Status event for an ICP, other than the Status Reason of a *decommissioned* Status event.
5. Distributors may only correct events that were input during their period of ownership.
6. Whenever a new value of an attribute is assigned, even if it is a correction of an existing attribute, a new event must be created to show the correct situation. The original event is also marked as being *replaced*. The new event then becomes the only active event for that Event Date. The original replaced event must also identify the new event that replaced it.
7. An event must not be corrected if that would invalidate other prior events. Reconciliation Types that would change the type of ICP cannot be changed.
8. There must be no automatic inheritance of attribute values. Whenever the value of an attribute needs to change, a value must be provided, at least for every mandatory attribute of the associated event.
9. If more than one event is corrected at the same time, the Event Dates of each event may be different.
10. It must be possible for Distributors to revert ICPs with a Status of *ready* or *distributor* to a Status of *new* by blanking out required attributes on existing events, eg by updating a Pricing event with a blank loss category. (Note that this function must be able to be performed ‘historically’, ie prior to the latest Event Date.)
11. Once the ICP has been assigned to a Trader, no further notifications must be sent to any Trader proposing to trade at the ICP.

Data inputs:
One or more of: Network event; Pricing event; Address event; or Status event. The corrected attributes must be provided by submitting ‘complete’ events, ie with all the other mandatory attributes for the event. See sub-process DM-020 for details of the mandatory attributes per event corrected.

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that this Distributor is allowed to make this change. 3. Replaces the incorrect events and inserts the corrected ones. 4. Completes the audit trail information for each inserted and each replaced event. 5. Evaluates who the affected participants are and generates notifications to them, if their notification parameters require it. 6. Generates acknowledgements to the Distributor for each event inserted and replaced.

Data outputs:
New Network event and/or Address event and/or Status event and/or Pricing event with the associated audit trail information. Updated old Network event and/or Address event and/or Status event and/or Pricing event with the associated audit trail information. Notifications. Acknowledgements.

Sub-process:	**DM-040 Reverse Distributor information**
Process:	Distributor updates information about an ICP
Participants:	Distributors
Code references:	Clauses 11.2, 11.7 and 11.8, and clauses 7 and 12 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
The Distributor reverses one or more existing events that have been input in error.

Business requirements:

1. Distributors are solely responsible for maintaining the network, Address and Pricing information.
2. Both historical and current events may be reversed.
3. Distributors can only reverse a Status event that sets the Status to *decommissioned*.
4. <u>Where an ICP moves from decommissioned to non-decommissioned, and the Reconciliation Type in force at the time of the decommission has now become invalid the update will be rejected</u>
5. Distributors can only reverse events that are within their period of ownership.
6. An event may not be reversed if that would invalidate a later event, e.g. a reversal of a Status event that set the Status to *inactive* that immediately precedes a decommissioning (ie Status event that set the Status to *decommissioned*) must be prevented.
7. A reversal must mark the reversed event as *reversed* in the audit information of the event.
8. If more than one event is being reversed, the Event Dates of each event may be different, i.e. multiple concurrent reversals for one ICP are allowed.

Data inputs:

Selection of one or more of the following events for reversal:

Network event;

Pricing event;

Address event; or

Status event.

Processing:
System 1. Validates that the Distributor is permitted to reverse the event(s) selected. 2. Reverses the event(s). 3. Generates a Status event if necessary to maintain the integrity and consistency of the ICP's information. For instance, if the ICP was initially created in the *ready* state and an event was reversed that would cause the ICP to revert to the *new* state, eg reversal of a Pricing event, then the system would need to generate a Status event to reflect this. 4. Completes the audit trail information for each event reversed. 5. Evaluates who the affected participants are and generates notifications to them, with reference to the notification parameters. 6. Generates acknowledgements to the Distributor for each event reversed.

Data outputs:
Updated old Network event and/or Address event and/or Status event and/or Pricing event with the associated audit trail information. Notifications. Acknowledgements.

3.2 ICP event maintenance – Trader

Sub-process:	**RA-010 Trader becomes responsible for an ICP**
Process:	Trader becomes responsible for an ICP
Participants:	Traders
Code references:	Clauses 11.18 and 9 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
A Trader becomes responsible for an ICP for the first time by providing information about an ICP required to be provided by a Trader, so that the Trader is recorded in the registry as being responsible for the ICP.

Business requirements:

1. A Trader can accept responsibility for an ICP only if the ICP is in the *ready* state.
2. In order to accept responsibility for an ICP, a Trader must provide the information about an ICP required to be provided by a Trader, which includes information about Reconciliation, Metering and Status events. Each event must have the same Event Date.
3. The Event Date on which the Trader accepts responsibility must be on or after the Event Date of the latest *ready* Status event.
4. A Trader can only accept responsibility for an ICP to itself.
5. The initial process set out above can only be used the first time a Trader accepts responsibility for an ICP. All subsequent changes to the Trader who is responsible for an ICP must be performed via a switch.

Data inputs:

At least the mandatory attributes of all the three Trader events:

Reconciliation event;

Metering event; and

Status event.

Each attribute on an input line is comma separated
The mandatory attributes are:

Event data	Format	Mandatory/ optional	Comments
Record Type	Char 3	M	Must be “DET”
ICP Identifier	Char 15	M	

Reconciliation event:			
Event Date	DD/MM/YYYY	M	
User Reference	Char 32	O	
Trader	Char 4	M	Can only be input on initial Trader accepting of responsibility, and can be inputted only by the Trader accepting responsibility.
Profile	Char 25	M	There may be multiple Profiles at an ICP. All must be available to the Trader on the Event Date.
Reverse Trader Event	Char 1	O	Used in RM-040 only. R or blank
Metering event:			
Event Date	DD/MM/YYYY	M	Same as Reconciliation Event Date.
User Reference	Char 32	O	
Primary Metering Contact Participant Identifier	Char 4	M	Valid Participant Identifier or MNON (indicating the ICP has no Primary Metering Contact) where the Metering Category is 0 or 1
Metering Category	Numeric 1	M	1 through 6.
Meter Type HHR	Char 1	M	Y/N. At least one of the four meter types must be Y.
Meter Type NHH	Char 1	M	Y/N. At least one of the four meter types must be Y.
Meter Type UNM	Char 1	M	Y/N. At least one of the four meter types must be Y.
Meter Type PP	Char 1	M	Y/N. At least one of the four meter types must be Y.
Advanced Metering Infrastructure metering infrastructure	Char 1	M	Y/N. Default is 'N'.
Daily Unmetered kWh	Char 6	O	Mandatory if one of the meter types is unmetered or Meter Register Count is 0. Value must be decimal (to three decimal places) or 'ENG' if the load is profiled through an engineering profile in accordance with profile class 2.1

Unmetered Load Details – Trader	Char 50	O	
Meter Register Count	Numeric 3	M	0 to 999. Holds the number of meter registers used to obtain metering information at the ICP. Will be zero for unmetered installations.
Meter Multiplier Flag	Char 1	M	N(o) if all meters at the ICP have a multiplier of 1 or the ICP is unmetered, otherwise Y(es).
Reverse Metering Event	Char 1	O	Used in RM-040 only. R or blank
Status event:			
Event Date	DD/MM/YYYY	M	Same as Reconciliation Event Date.
User Reference	Char 32	O	
ICP Status	Char 3	M	Active or inactive only (code only).
Status Reason	Numeric 2	M/O	Mandatory if ICP Status *inactive*. Valid Status Reason codes are 04, 05 or 06.
Reverse Status Event	Char 1	O	Used in RM-040 only. R or blank
Example: HDR,RQRETMAINT,RETA,RGST,08/08/2007,09:19:15,1,Detail Change DET,9999999999AB123,01/01/2009,TraderUserRef,RETA,MXP,01/01/2009,MeterUSerRef,META, 1,N,N,N,N,Y,ENG,UnmtrLoadDetail,3,N,,01/01/2009,StatusUserRef,01,06,			

Processing:

System

1. Validates all attributes and checks their dependencies.
2. Creates the appropriate events with the attribute values input by the Trader.
3. Completes the audit trail information for each event created.
4. Determines who the affected participants are and generates notifications to them, with reference to their notification parameters.
5. Generates acknowledgements to the Trader for each event created.

Data outputs:

A Reconciliation, Metering and Status event each with the associated audit trail information. Notifications. Acknowledgements.

Sub-process:	**RM-010 Reverse initial assignment**
Process:	Trader updates information about an ICP
Participants:	Traders
Code references:	Clauses 11.7, 11.8, 11.18 of the Code
Dependencies:	

Description:

A Trader reverses its initial accepting of responsibility for an ICP.

Business requirements:

1. A Trader may only reverse its own accepting of responsibility for an ICP.
2. The reversal may not occur if there are **any** additional non-reversed events for the ICP with Event Dates after the initial assignment.
3. The reversal may not occur if there is a switch in progress for the ICP.

Data inputs:

Selection of the initial assignment (or its Reconciliation event).

Processing:

System

1. Validates that the initial assignment can be reversed by the Trader.
2. Reverses the reconciliation, metering and Status events of the initial assignment.
3. Completes the audit trail information for each of the reversed events.
4. Determines the affected participants and generates notifications to those that require them.
5. Generates acknowledgements to the Trader for each of the reversed events.

Data outputs:

Reversal of initial assignment events – Reconciliation, Metering and Status events each with updated audit trail information.

Notifications.

Acknowledgements.

Sub-process:	**RM-020 Add new Trader information**
Process:	Trader updates information about an ICP
Participants:	Traders
Code references:	Clauses 11.7, 11.14, 11.18, and clauses 9 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
The Trader adds one or more new events to an ICP. The event(s) may either represent a change to the information stored on the registry in respect of the ICP, e.g. a new metering category, or may be information that should have been entered previously but was missed. The event is not for an existing Event Date.

Business requirements:

1. Traders are solely responsible for updating Reconciliation and Metering information.
2. Information must not be updated if there is a switch in progress for the ICP.
3. Traders may only insert new Status events with Status values of *active* or *inactive*.
4. At a minimum, all mandatory attributes of an event must be provided; no attribute values may be inherited from prior events.
5. Traders may only insert events with Event Dates that are within their period of ownership.
6. Traders may only insert events with their own Participant Identifier as the value of the Trader attribute.
7. Events cannot be inserted prior to the date on which the first Trader accepted responsibility for of the ICP.
8. Events cannot be inserted for Event Dates after the date of decommissioning.
9. An event must not be inserted if that would invalidate other prior events.
10. It must be possible to insert more than one event at the same time.
11. If more than one event is being inserted, the Event Dates of each event may differ.

Data inputs:
One or more of: Reconciliation event; Metering event; or Status event. Each attribute on an input line is comma separated. The attributes are:

Event data	**Format**	**Mandatory/ optional**	**Comments**
Record Type	Cha 3	M	Must be “DET”
ICP Identifier	Char 15	M	
Reconciliation event:			
Event Date	DD/MM/YYYY	M/O	A blank date indicates no data for this event.
User Reference	Char 32	O	
Trader Participant Identifier	Char 4	O	Must be own Participant Identifier. If blank, inserted by system.
Profile	Char 25	M	There may be multiple Profiles at an ICP, separated by a single space. All must be available to the Trader on the Event Date.
Reverse Trader Event	Char 1	O	Used in RM-040 only. R or blank
Metering event:			
Event Date	DD/MM/YYYY	M/O	A blank date indicates no data for this event.
User Reference	Char 32	O	
Primary Metering Contact Participant Identifier	Char 4	M	Valid Participant Identifier or MNON (indicating the ICP has no Primary Metering Contact) where the Metering Category is 0 or 1
Metering Category	Numeric 1	M	1 through 6.
Meter Type HHR	Char 1	M	Y/N. At least one of the four meter types must be Y.
Meter Type NHH	Char 1	M	Y/N. At least one of the four meter types must be Y.

Event data	Format	Mandatory/ optional	Comments
Meter Type UNM	Char 1	M	Y/N. At least one of the four meter types must be Y.
Meter Type PP	Char 1	M	Y/N. At least one of the four meter types must be Y.
Advanced Metering Infrastructure metering infrastructure	Char 1	M	Y/N.
Daily Unmetered kWh	Char 6	M/O	Mandatory if one of the meter types is unmetered or Meter Register Count is 0. Value must be decimal (to three decimal places) or 'ENG' if the load is profiled through an engineering profile in accordance with profile class 2.1.
Unmetered Load Details – Trader	Char 50	O	
Meter Register Count	Numeric 3	M	0 to 999. Will be zero for unmetered installations or else holds the number of meter registers used to obtain metering information at the ICP.
Meter Multiplier Flag	Char 1	M	Y(es) if at least one meter has a multiplier not equal to 1, or else N(o).
Reverse Metering Event	Char 1	O	Used in RM-040 only. R or blank
Status event:			
Event Date	DD/MM/YYYY	M/O	A blank date indicates no data for this event.
User Reference	Char 32	O	
ICP Status	Char 3	M	Active or inactive only (code only).
Status Reason	Numeric 2	M/O	Mandatory if ICP Status *inactive.* Valid Status Reason codes are 04, 05 or 06.
Reverse Status Event	Char 1	O	Used in RM-040 only. R or blank
Example: HDR,RQRETMAINT,RETA,RGST,08/08/2007,09:19:15,1,Detail Change DET,9999999999AB123,01/01/2009,TraderUserRef,RETA,MXP,01/01/2009,MeterUSerRef,META, 1,N,N,N,N,Y,ENG,UnmtrLoadDetail,3,N,,01/01/2009,StatusUserRef,01,06,			

Event data	Format	Mandatory/ optional	Comments
Processing:			
System 1. Validates all attributes and checks their dependencies. 2. Checks that the Trader is allowed to make this change. 3. Adds the events supplied by the Trader. 4. Completes the audit trail information for each event added. 5. Determines the affected participants and generates notifications for those who require them. 6. Generates acknowledgements to the Trader for each event added.			

Data outputs:
New Reconciliation event and/or Metering event and/or Status event with the associated audit trail information. Notifications. Acknowledgements.

Sub-process:	**RM-030 Correct Trader information**
Process:	Trader updates information about an ICP
Participants:	Traders
Code references:	Clauses 11.2, 11.7, 11.14, 11.18, and 9 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:

The Trader corrects information entered incorrectly in respect of one or more existing events associated with an ICP.

Business requirements:

1. Traders are solely responsible for maintaining the reconciliation and metering information.
2. Traders may not correct information if there is a switch in progress for the ICP.
3. Traders may only update Status events to have Status values of *active* or *inactive*.
4. It must be possible to correct more than one event at the same time.
5. At least all mandatory attributes of an event must be provided. No attribute values should be automatically inherited from prior events.
6. Traders can only correct events that are within the period in which the Trader was responsible for the ICP.
7. It must be impossible for the Trader to change the Trader attribute of the Reconciliation event to another Trader's Participant Identifier.
8. An event must not be corrected if that would invalidate other prior events.
9. The incorrect event must be logically replaced by the correct event and the audit details of the incorrect event must be updated to identify the correct event.
10. If more than one event is being corrected, the Event Dates of each event may be different.

Data inputs:

One or more of:

Reconciliation event with new attribute value(s);

Metering event with new attribute value(s); or

Status event with new attribute value(s).

See sub-process RM-030 for details of mandatory values.

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that the Trader is allowed to make this change. 3. Replaces the incorrect events and inserts the corrected ones. 4. Completes the audit trail information for each inserted and each replaced event. 5. Evaluates who the affected participants are and generates notifications to them, if their notification parameters require it. 6. Generates acknowledgements to the Distributor for each event inserted and replaced.

Data outputs:
New Reconciliation event and/or Metering event and/or Status event with the associated audit trail information. Updated old Reconciliation event and/or Metering event and/or Status event each with their associated audit trail information updated correctly. Notifications. Acknowledgements.

Sub-process:	**RM-040 Reverse Trader information**
Process:	Trader updates information about an ICP
Participants:	Traders
Code references:	Clauses 11.2, 11.7, 11.18, and clauses 9 to 20 of Schedule 11.1 of the Code
Dependencies:	

Description:
The Trader reverses one or more existing events that have been input in error.

Business requirements:

1. Traders are solely responsible for maintaining the reconciliation and metering information.
2. Traders must not reverse events if there is a switch in progress for the ICP.
3. Traders may only reverse Status events that have Status values of a*ctive* or *inactive*.
4. Traders may only reverse events that happened within their period of ownership.
5. An event must not be reversed if that would invalidate other prior events.
6. A reversal must mark the reversed event as *reversed* in the audit information pertaining to the event.
7. More than one event may be reversed at the same time.
8. Both historical and current events may be reversed.
9. If more than one event is being reversed, the Event Dates of each event may be different.

Data inputs:

Selection of one or more of:

Reconciliation event;

Metering event; or

Status event.

Processing:
System 1. Validates that the Trader is permitted to reverse the event(s). 2. Reverses the event(s). 3. Completes the audit trail information for each event reversed. 4. Determines the affected participants and generates notifications for those who require them. 5. Generates acknowledgements to the Trader for each event reversed.

Data outputs:
Reversed Reconciliation event and/or Metering event and/or Status event with the associated audit trail information updated accordingly. Notifications. Acknowledgements.

3.3 Switching

Sub-process:	**RS-010 Make switch request (NT)**
Process:	Traders switch ICP
Participants:	Traders
Code references:	Clauses 1 to 16 and 22 of Schedule 11.3 of the Code
Dependencies:	

Description:
The gaining Trader initiates a switch by sending a switch request message (NT) to the registry. The registry then forwards the request on to the losing Trader.

Business requirements:

1. Only the gaining Trader can send an NT to the registry.
2. The current Status of an ICP as defined by the most recent Status event must be either *inactive* or *active*.
3. There must not already be a switch in progress for the ICP.
4. The type of switch specified in the NT must be consistent with the metering type of the ICP.
   - Where the metering type of the ICP is *half-hour*, the switch type of the NT must be either half-hour, half-hour move or half-hour to non-half-hour (H, HM, HN).
   - Otherwise a switch type of the NT must be either standard non-half-hour, standard non-half-hour move or non-half-hour to half-hour (S, SM, NH).
5. A Proposed Transfer Date must be provided for switch moves and half hour switches, and must be after the initial assignment and after any other completed switches which have not been withdrawn.
6. *For information only*: For standard switches (type (*S*)), the losing Trader must establish an Event Date that is not more than 10 business days after the date the losing Trader received notification from the registry. In addition, in any 12 month period, at least 50 percent of the Event Dates established by the losing Trader must be no more than 5 business days after notification.
7. The Address information provided on an NT must only be used by the losing Trader to confirm that the new Trader has identified the correct ICP. It must not be used to update the registry.
8. The registry must keep a copy of the NT for a minimum of 3 months.
9. An audit trail and an acknowledgement must be generated for the NT.
10. The NT must be forwarded by the registry to the losing Trader in a file in the same format as input, and in accordance with their switch notify parameters.

11. An NT must not be corrected or reversed once it has been accepted by the registry; instead it must be withdrawn.
12. Once the NT has been accepted, all online queries relating to the ICP in question must highlight that a switch is in progress.

Data inputs:

Each attribute on an input line is comma separated.

NT (notice of transfer) attributes are as follows

Name	Type	Mandatory/ optional	Description
Record type	Char 1	M	Must be “P”
ICP	Char 15	M	
Requesting Trader	Char 4	O	New Trader participant identifier. The Participant Identifier can be derived by the system.
Confirmation Address Unit	Char 20	O	
Confirmation Address Number/ RAPID number	Char 25	O	
Confirmation Address Street	Char 30	O	
Confirmation Address Suburb	Char 30	O	
Confirmation Address city	Char 30	O	
Confirmation Post Code	Numeric 4	O	
Confirmation Address Region	Char 20	O	
Confirmation Property Name	Char 75	O	
Proposed Transfer Date	DD/MM/YYYY	M/O	Mandatory if switch type is NOT S.
Switch Type	Char 2	M	Must be one of S, SM, H, HM, NH, HN.
Proposed Profiles	Char 25	M	One or more Profiles separated by spaces. Each one must be valid for the requesting Trader on the Proposed Transfer Date.
User Reference	Char 32	O	Free text.

Example:

HDR,RQSWITCHNT,RETB,RGST,16/07/2007,15:36:20,1,
P,9999999999AB123,RETB,Unit1,127,Peel
Street,Ohau,Twizel,9971,Canterbury,01/01/2009,S,RPS MXP,NTSwitchUserRef

Processing:

System

1. Validates all attributes and checks their dependencies.
2. Checks that the requesting Trader is allowed to make the NT.
3. Rejects an NT with errors and returns it to the sender with the reason for the rejection.
4. Updates each ICP to indicate that a switch is in progress.
5. Keeps a copy of the NT and completes the audit trail information for it.
6. Delivers the NT to the current Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters.
7. Generates an acknowledgement to the gaining Trader.

Data outputs:

ICP updated to indicate that a switch is in progress and the NT has been received.

Stored copy of the switch request message and its associated audit trail information.

NT to forward to the losing Trader.

Acknowledgement.

Sub-process:	**RS-020 Acknowledge switch request (AN)**
Process:	Traders switch ICP
Participants:	Traders
Code references:	Clauses 1 to 16 and 22 of Schedule 11.3 of the Code
Dependencies:	
Description:	
The losing Trader responds to a switch request by sending an acknowledgement notice (AN) to the registry. The registry then forwards the notice to the gaining Trader.	

Business requirements:

1. Only the current Trader at an ICP being switched can send an AN message.
2. There must be a switch in progress for the ICP and it must relate to the current Trader.
3. An AN must be sent for half-hour, half-hour move, non-half-hour to half-hour, and half-hour to non-half-hour switch types (H, HM, NH, HN) but is optional for standard non-half-hour and standard non-half-hour move switch types (S, SM).
4. A value must be entered for Expected Transfer Date for standard and move non-half-hour switches (types S and SM). A transfer date must be both later than the date the current Trader accepted responsibility for the ICP and any completed switches that have not been withdrawn.
5. Industry approved acknowledgement codes must be used in the AN.
6. The registry must keep a copy of the AN for a minimum of 3 months.
7. An audit trail and an acknowledgement must be generated for the AN.
8. The AN must be forwarded by the registry to the gaining Trader in a file and in accordance with its switch notify parameters.
9. Once accepted by the registry, an AN cannot be corrected or reversed.
10. An AN with an acknowledgement code indicating that the current Trader objects to the switch does not mean the switch process must be stopped. This can only be done by withdrawing the switch.

Data inputs:			
Each attribute on an input line is comma separated. AN (acknowledgement notice) attributes are:			
Name	**Type**	**Mandatory/ optional**	**Description**
Record type	Char 1	M	Must be “P”
ICP	Char 15	M	
Trader	Char 4	O	Current Trader Participant Identifier (losing). The Participant Identifier can be derived by the system.
Response Code	Char 2	M	As defined by the Authority. Current values are: AA – acknowledge and accept CO – contracted customer MP – metering is pre-paid MU – unmetered supply OC – occupied premises PD – premises de-energised AD – advanced metering.
Expected Transfer Date	DD/MM/YYYY	M/O	If the AN is in response to a type S and SM switch then Expected Transfer Date is mandatory, or else optional.
User Reference	Char 32	O	Free text field.
Example: HDR,RQSWITCHAN,RETA,RGST,10/07/2007,16:45:01,1 P,9999999999AB123,RETA,AA,01/01/2009,AN UserReference			

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that the AN was sent by the current Trader at the ICP and that there is a prior switch request. 3. Rejects an AN with errors and returns it to the sender with the reason for the rejection. 4. Updates the progress of the switch for the ICP.

5. Keeps a copy of the AN. 6. Completes the audit trail information for the AN. 7. Delivers the AN to the gaining Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters. 8. Generates an acknowledgement to the current Trader.
Data outputs:
ICP updated to indicate what stage the switch process has reached, ie AN received. Stored copy of the acknowledgement notice and its associated audit trail information. AN to forward to the gaining Trader. Acknowledgement.

Sub-process:	**RS-030 Complete non-half-hour switch (TN)**
Process:	Traders switch ICP
Participants:	Traders
Code references:	Clauses 1 to 16 and 22 of Schedule 11.3 of the Code
Dependencies:	

Description:
The losing Trader sends a transfer notification message (TN) to the registry in order to complete either a standard non-half-hour switch (S) or a standard non-half-hour move switch (SM). The registry then forwards the TN on to the gaining Trader. The TN provides the final premises, metering and meter reading information to the gaining Trader.

Business requirements:

1. Only the losing Trader can send a TN message.
2. All TN messages must be sent to the registry in a file; however, the system must also provide an online view of the basic TN information, ie not all the TN information must be displayed.
3. There must be a prior switch request or acknowledgement notice present for the ICP and it must relate to the switch.
4. The original switch request must have been for either a standard non-half-hour or standard non-half-hour move switch (S, SM).
5. The registry must keep a copy of the TN for a minimum of 3 months.
6. An audit trail and an acknowledgement must be generated for the TN.
7. The TN must be forwarded by the registry to the gaining Trader in a file in the same format and order as input, and in accordance with their switch notify parameters.
8. The TN must also be forwarded to the Distributor and Meter Owner (applicable at the actual switch transfer date).
9. Once accepted by the registry, a TN cannot be corrected or reversed. The withdrawal sub-process must be used instead.

Data inputs:			
Each attribute on an input line is comma separated. TN (transfer notice) attributes are:			
Name	**Type**	**Mandatory/ optional**	**Description**
Record type	Char 1	M	Must be ‘P’ – premises.
ICP	Char 15	M	ICP Identifier.
Trader	Char 4	O	Current Trader Participant Identifier (losing). Derived by the system if left blank.
Actual Transfer Date	DD/MM/YYYY	M	
Relay Owner	Char 6	O	Owner of relays on premises.
Number Of Meters	Numeric 2	M	Number of meters at ICP.
User Reference	Char 32	O	Free text field carried to history and audits.
For each meter:			There must be exactly <number of meter> rows of ‘M’ record types for this ICP. They will be separated by intervening ‘R’ rows.
Record type	Char 1	M	‘M’ – meter.
ICP	Char 15	M	ICP Identifier.
Last Read Date	DD/MM/YYYY	M	Date meter was last physically read, eg 05/05/2002, or the last validated meter reading if permanent estimate supplied.
Primary Metering Contact Participant Identifier	Char 4	M	Must be a valid Meter Owner.
Meter Identifier	Char 15	M	Unique identifier of meter.
Meter Multiplier	Numeric 3.3	M	Multiplier (up to three decimal places) to transform readings to actual usage. Checked against the value of the Meter Multiplier Flag of the Metering event applicable on the Actual Transfer Date. If the Metering event Meter Multiplier Flag is ‘Y’ then at least one of the meter multipliers for this premise must have a value other than unity, ie not 1.
Register Dials	Numeric 2	M	Number of dials/digits on the meter’s registers. Valid values are between 4 and 12.

Meter Location Code	Char 3	M	Value must be one of those in the list of valid meter location codes held by the registry.
Name	**Type**	**Mandatory/ optional**	**Description**
Average Daily Consumption	Numeric 6	M	Value indicates average kWh per day for last read period.
Key Held Indicator	Char 1	M	'Y'/'N'.
Number Of Registers	Numeric 2	M	Number of registers for this meter. The total number of registers for the premises (for this ICP) must be **greater** than or equal to Meter Register Count of the Metering event applicable on the Actual Transfer Date. This is a count of the number of non half-hour meter registers only. A register for this file is defined as one that returns cumulative non half-hour meter readings used by participants in the preparation of submission files.
Meter Reader Notes	Char 50	O	Free text. Optional.
For each register within the meter:			There must be exactly <number of register> rows after each 'M' row.
Record type	Char 1	M	'R' – register.
ICP	Char 15	M	ICP Identifier.
Meter Identifier	Char 1~~3~~5	M	Unique identifier of meter. Must be the same as in the preceding M record.
Register Number	Numeric 2	M	Sequential register number (identifier).
Register Content	Char 6	M	Valid register content code – see static data sub-process, eg D—daytime only, N—night-time only.
Period of Availability	Numeric 2	M/O	Minimum service hours of supply per day. Required if register has controlled or inclusive load (see register content codes – static data maintenance sub-process).
Register Units	Char 6	M	Valid register unit – see static data maintenance sub-process, eg kWh, kW, kVA, kVArh.

Energy Flow Direction	Char 1	M	Valid values are ‘L’ for load and ‘G’ for generation.
Register Reading	Numeric 12	M	Reading value for this register on this date. Number of digits must not be greater than the number of dials.
Name	**Type**	**Mandatory/ optional**	**Description**
Actual or Estimate	Char 1	M	Indicates whether the read was an actual or estimate. Valid values: (A)ctual, ie validated meter reading, or (E)stimate, ie permanent estimate.

Examples:
HDR,RQSWITCHTN,RETA,RGST,19/07/2007,14:48:34,3
P,9999999999AB123,RETA,01/01/2009,RETA,1,premises user ref
M,9999999999AB123,17/12/2008,,6677AB,,,,12.33,Y,1,MetrNotes
R,9999999999AB123,6677AB,12,,,,,,1234,A

A TN with 2 meters each with 2 registers:
HDR,RQSWITCHTN,CTCT,RGST,19/07/2007,14:48:34,5
P,2345678901AB123,GENE,18/07/2007,,1,100471481:001
M12345678901AB123,15/07/2007,NGCM,501824,1.000,5, BA,554,N,3
R,2345678901AB123,501824,1,D,16,KWH,L,26699,A
R,2345678901AB123,501824,2,N,8,KWH,L,08444,A
M,2345678901AB123,15/07/2007,NGCM,501825,1.000,5, BA,374,N,3
R,2345678901AB123,501825,1,D,16,KWH,L,26699,A
R,2345678901AB123,501825,2,N,8,KWH,L,08444,A

Processing:

System

1. Validates all attributes and checks their dependencies.
2. Checks that the TN is being sent by the losing Trader and that there is a switch in progress for the ICP.
3. Rejects a TN with errors and returns it to the sender with the reason for the rejection.
4. Keeps a partial copy of the TN comprising the Actual Transfer Date, number of meters and User Reference attributes and the Proposed Transfer Date from the original transfer request (NT).
5. Generates an audit trail for the partial TN.
6. Sends the complete TN to the gaining Trader either immediately or as part of a later batch in

accordance with that Trader's switch notify parameters.

7. Sends the complete TN to the affected Distributor and Meter Owner of the ICP. All TNs are batched together in one file and delivered overnight.
8. Generates a Reconciliation event for the ICP, in order to effect the change in Trader, setting the Event Date to be the Actual Transfer Date from the TN and taking the remaining reconciliation attributes from the information in the original switch request (NT).
9. Updates the ICP so that there is no longer a switch in progress.
10. Reverses any Trader events that may have been input by the losing Trader prior to the start of the switch process and that have Event Dates later than the Actual Transfer Date.
11. Completes audit trail information for each event inserted and reversed.
12. Generates an acknowledgement for the TN to the losing Trader.
13. Determines affected participants of each event insertion and reversal and generates notifications to them, with reference to their notification parameters. Both Traders are classed as affected participants.

Data outputs:

ICP updated to indicate the switch is no longer in progress.

Reconciliation event.

Possible reconciliation, metering and Status event reversals.

Partial copy of the TN and its associated audit trail information stored on registry for online query.

TN to forward to the gaining Trader, Distributor, and Meter Owner.

Notifications.

Acknowledgements.

Sub-process:	**RS-040 Complete half-hour switch (TT)**
Process:	Traders switch ICP
Participants:	Traders
Code references:	Clauses 1 to 16 and 22 of Schedule 11.3 of the Code
Dependencies:	

Description:

A TT message is sent to the registry by the gaining Trader to complete a half-hour (H), half-hour move (HM), non-half-hour to half-hour (NH) or half-hour to non-half-hour switch (HN). The TT provides only information about the losing Trader and the gaining Trader. No meter reading information or other final information is supplied to the old Trader.

Business requirements:

1. Only the gaining Trader can send the TT for a switch in progress for the ICP.
2. There must be a prior AN present for the ICP and it must relate to the switch in progress.
3. The switch type on the original NT must have been either half-hour (H), half-hour move (HM), non-half-hour to half-hour (NH) or half-hour to non-half-hour switch (HN).
4. The registry must keep a copy of the TT for a minimum of 3 months.
5. An audit trail and an acknowledgement must be generated for the TT.
6. The TT must be forwarded by the registry to the losing Trader in a file and in accordance with their switch notify parameters.
7. A TT cannot be corrected or reversed once accepted by the registry. The withdrawal sub-process must be used instead.

Data inputs:

Each attribute on an input line is comma separated.

TT (transfer notice) attributes are:

Name	Type	Mandatory/optional	Description
Record type	Char 1	M	Must be ‘P’ - premises.
ICP	Char 15	M	ICP Identifier.
Trader	Char 4	O	New requesting Trader Participant Identifier. If blank, will be derived by system.
Actual Transfer Date	DD/MM/YYYY	M	Actual date transfer will occur (switch Event Date).

Name	Type	Mandatory/optional	Description
Status Event Information:			Optional.
ICP Status	Char 3	O	Inactive (001) or Active (002). Required only if current ICP Status needs to change.
ICP Status Reason	Numeric 2	O/M	If ICP Status of *inactive* is entered then a valid inactive reason code is required (mandatory), ie one of: 04 – de-energised vacant property 05 – reconciled elsewhere 06 – de-energised ready for decommissioning.
Metering event Information:			Optional input; however, if one of the following attributes is input then ALL other attributes are required to be input (ie are mandatory).
Primary Metering Contact Participant Identifier	Char 4	O/M	Valid Participant Identifier or MNON (indicating the ICP has no Primary Metering Contact) where the Metering Category is 0 or 1.
Metering Category	Numeric 1	O/M	0 to 6.
Meter Type HHR	Char 1	O/M	Y or N. At least one of the Meter Types must be Y.
Meter Type NHH	Char 1	O/M	Y or N. At least one of the Meter Types must be Y.
Meter Type UNM	Char 1	O/M	Y or N. At least one of the Meter Types must be Y.
Meter Type PP	Char 1	O/M	Y or N. At least one of the Meter Types must be Y.
Advanced Metering Infrastructure	Char 1	O/M	Y or N.
Daily Unmetered kWh	Char 6	O/M	Mandatory if one of the Meter Types is Unmetered or Meter Register Count is 0. Value must be decimal (to 3 decimal places) or 'ENG' if the load is profiled through an engineering profile in accordance with profile class 2.1.

Unmetered Load Details – Trader	Char 50	O/M	Optional.
Name	**Type**	**Mandatory/optional**	**Description**
Meter Register Count	Numeric 3	O/M	0 to 999. This is the number of half-hour meters that are used in the settlement process.
Meter Multiplier Flag	Char 1	O/M	N(o) if all meters at the ICP have a multiplier of 1 or the ICP is unmetered, otherwise Y(es).
Additional Reconciliation event information:			Optional.
Profile	Char 25	O	One or more Profiles separated by spaces. Each one must be valid for the Trader on the Actual Transfer Date. If not provided then Profiles from the NT will be used.
User Reference	Char 32	O	Free text field. Optional.
Example: HDR,RQSWITCHTT,RETA,RGST,16/07/2007,13:14:00,1 P,9999999999AB123,RETA,01/01/2009,002,,MEPA,,N,Y,N,,,1.54,UnmtrLoadDetails,,,MXP RPS,TTUserRef			

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that the TT was sent by the gaining Trader and that there is a prior AN sent by the current Trader. 3. Rejects a TT with errors and returns it to the sender with the reason for the rejection. 4. Keeps a copy of the TT in the registry under the ICP. 5. Forwards the TT to the losing Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters. 6. Generates a Reconciliation event for the ICP in order to effect the change in Trader. The Reconciliation event's Event Date is set to the Actual Transfer Date of the TT and takes the Profiles either from the TT, if they are provided, or from the original switch request NT. 7. Constructs events of the appropriate event types from information contained in the TT. Depending on what information has been provided, this may result in the insertion of new metering and Status events. 8. Updates the ICP so that there is no longer a switch in progress.

9. Reverses any Trader events that may have been input by the losing Trader prior to the start of the switch process and that have Event Dates later than Actual Transfer Date. 10. Completes audit trail information for each event inserted and reversed as well as for the TT. 11. Generates an acknowledgement for the TT to the gaining Trader. 12. Determines the affected participants of the event insertions and reversals and generates notifications to them, in accordance with the requirements of their notification parameters. Both Traders are classed as affected participants.
Data outputs:
ICP updated to indicate the switch is no longer in progress. Reconciliation event. Possible metering and/or Status events. Possible reconciliation, metering and/or Status event reversals. Copy of the TT and its associated audit trail information. TT to forward to the losing Trader. Notifications. Acknowledgements.

Sub-process:	**RW-010 Make withdrawal request (NW)**
Process:	Trader withdraws switch
Participants:	Traders
Code references:	Clauses 17 and 18 of Schedule 11.3 of the Code.
Dependencies:	

Description:
A Trader currently or previously involved in a switch sends a notify withdrawal message (NW) to the registry requesting the withdrawal of a switch.

Business requirements:

1. Only the losing Trader or gaining Trader can request a switch withdrawal.
2. Either losing Trader or gaining Trader can initiate the switch withdrawal process.
3. Only the latest switch may be withdrawn. The switch can be one that is still in progress or one that has been completed.
4. *For information only*: A switch may only be withdrawn until the expiry of 2 calendar months after the Event Date of the switch.
5. The withdrawal process can be initiated at any point in the switch process, ie after the NT, AN, TN or TT.
6. No Trader may do maintenance on any Trader event for the ICP while a switch is being withdrawn, but Distributors are allowed to maintain their events.
7. If any Distributor maintenance is done, any notifications sent to affected participants must indicate that a switch withdrawal is in progress and both Traders involved must be notified.
8. The registry must keep a copy of the NW for a minimum of 3 months.
9. An audit trail and an acknowledgement must be generated for the NW.
10. The NW must be forwarded by the registry to the other Trader in a file and in accordance with their switch notify parameters.
11. The withdrawal process must be completed once the NW has been accepted by the registry, since an NW cannot be corrected or reversed.
12. Once the NW has been accepted, all online queries relating to the ICP in question must highlight that a switch is being withdrawn.
13.

Data inputs:			
Each attribute on an input line is comma separated. NW (notice of withdrawal) attributes are:			
Name	**Type**	**Mandatory/ optional**	**Description**
Record type	Char 1	M	Must be 'P' - premises.
ICP	Char 15	M	
Trader	Char 4	O	Participant identifier of the Trader who submits withdrawal notice. Either party of current or last switch. Can be derived by system.
Withdrawal advisory code	Char 3	M	Valid withdrawal advisory code – static data maintenance sub-process. Current valid codes are: CR – customer request IN – invalid ICP Status UA – unauthorised switch WS – wrong switch type MI – withdrawn on metering issue MG – temporary withdrawal code WP – wrong premises DF – date failed WR – losing Trader not current Trader.
User Reference	Char 32	O	Free text.
Example: HDR,RQSWITCHNW,RETA,RGST,10/07/2007,11:00:00,1 P,9999999999AB123,RETA,CR,NW UserRef			

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that the requesting Trader is allowed to make the switch withdrawal request. 3. Rejects an NW with errors and returns it to the sender with the reason for the rejection. 4. Updates the relevant ICP to indicate that a switch is being withdrawn.

5. Keeps a copy of the NW, and completes the audit trail information for it. 6. Forwards the NW to the other Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters. 7. Generates an acknowledgement to the requesting Trader.
Data outputs:
ICP updated to indicate that the latest switch is being withdrawn. Stored copy of the NW and its associated audit trail information. NW to forward to the other Trader. Acknowledgement.

Sub-process:	**RW-020 Acknowledges withdrawal request (AW)**
Process:	Trader withdraws switch
Participants:	Trader
Code references:	Clauses 17 and 18 of Schedule 11.3 of the Code.
Dependencies:	

Description:

A Trader, having received a notice requesting a switch withdrawal, sends an acknowledge withdrawal (AW) message to the registry in reply. The acknowledgement can either accept or reject the withdrawal request.

Business requirements:

1. The Trader receiving a notice to withdraw a switch must respond to it by sending an AW to the registry.
2. There must be a prior NW for the latest switch of the ICP and no matching AW.
3. The registry must keep a copy of the AW for a minimum of 3 months.
4. An audit trail and an acknowledgement must be generated for the AW.
5. The AW must be forwarded to the other Trader by the registry in a file and in accordance with their switch notify parameters.
6. An AW cannot be corrected or reversed once accepted by the registry.

Data inputs:

Each attribute on an input line is comma separated.

AW (withdrawal acknowledgement)

Name	Type	Mandatory/ optional	Description
Record type	Char 1	M	Must be ‘P’ - premises.
ICP	Char 15	M	
Trader	Char 4	O	Trader Participant Identifier who submits the withdrawal acknowledgement. Can be derived by system.
Withdrawal Transfer Status	Char 1	M	A—withdrawal accepted. R—withdrawal rejected.
User Reference	Char 32	O	Free text.

Example:
HDR,RQSWITCHAW,RETB,RGST,10/07/2007,11:00:00,1
P,9999999999AB123,RETB,A,AW UserReference

Processing:

System

1. Validates all attributes and checks their dependencies.
2. Checks that the responding Trader is allowed to send the AW message.
3. Rejects an AW message with errors and returns it to the sender with a reason for the rejection.
4. If the AW message indicates that the withdrawal is accepted, cancels the latest switch. If it was a completed switch, any events inserted by the gaining Trader after the Actual Transfer Date of the switch are reversed and the ICP is updated to indicate that a switch is no longer in the withdrawal process. Responsibility for the ICP reverts to the losing Trader.
5. If AW indicates that the withdrawal is rejected and, prior to the commencement of the withdrawal being initiated, a switch was in progress, the system restores the ICP to the *switch in progress* state. (The switch can proceed or another withdrawal can be initiated.) If the withdrawal was for an already completed switch, the system ends the withdrawal in progress for the ICP. (It is available for switching again.)
6. Forwards the AW to the other Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters.
7. Completes the audit trail information of each event inserted and reversed as well as for the AW.
8. Generates an acknowledgement of the AW for the responding Trader.
9. Determines the affected participants of the event and reversals and generates notifications to them, with reference to their notification parameters. Both Traders are classed as affected participants.
10. Each withdrawal initiation and acknowledgement pair of transactions, regardless of whether the acknowledgement is an acceptance or a rejection, resolves a switch withdrawal request.

Data outputs:

ICP updated to indicate that the latest switch is no longer being withdrawn.

Stored copy of the AW and its associated audit trail information.

AW to forward to the other Trader.

Possible reconciliation, metering and Status event reversals.

Notifications.

Acknowledgements.

Sub-process:	**RC-010 Request switch read change (NC)**
Process:	Trader changes switch read
Participants:	Traders
Code references:	Clauses 6(b) and 12(2)(b) and (3) of Schedule 11.3 of the Code
Dependencies:	

Description:
A gaining Trader wishing to change the validated meter reading or permanent estimate on any completed switch that has not been or is not in the process of being withdrawn sends a request switch read change message (NC) to the registry to be forwarded to the losing Trader involved in the switch.

Business requirements:

1. All NC messages must be sent to the registry in a file. However, the system must also provide an online view of the basic NC information.
2. An NC message must only be applied to any completed switch that has not been or is not in the process of being withdrawn and it must have been for either a standard non-half-hour or standard non-half-hour move switch (S, SM), ie completed with a TN.
3. The premises information given on the NC must be the same as that of the TN message of the most recently completed switch sequence (except for the relay owner field).
4. The registry must keep a copy of the NC for a minimum of 3 months.
5. An audit trail and an acknowledgement must be generated for the NC.
6. The NC must be forwarded by the registry to the other Trader in a file and in accordance with their switch notify parameters.
7. Receipt of the NC must not affect the current switching status in any way.
8. Processing of the message must not generate any events.
9. A subsequent NC relating to a particular switch cannot be sent if there is an existing NC awaiting an associated AC for this switch.
10. Only the graining Trader of the switch in question can input an NC request.

Note that the NC is an exact copy of the TN format and the same validation of the values can be applied to the NC.

Data inputs:			
Each attribute on an input line is comma separated. NC (notice of change of switch read)			
Name	**Type**	**Mandatory/ optional**	**Description**
Record type	Char 1	M	Must be ‘P’—premises.
ICP	Char 15	M	ICP Identifier.
Trader	Char 4	O	Sending Trader Participant Identifier. Derived by the system if left blank.
Actual Transfer Date	DD/MM/YYYY	M	
Relay Owner	Char 6	O	Owner of relays on premises.
Number Of Meters	Numeric 2	M	Number of meters at ICP.
User Reference	Char 32	O	Free text field carried to history and audits.
For each meter:			There must be exactly <number of meter> rows of ‘M’ record types for this ICP. They will be separated by intervening ‘R’ rows.
Record type	Char 1	M	‘M’—meter.
ICP	Char 15	M	ICP Identifier.
Last Read Date	DD/MM/YYYY	M	Date meter was last physically read, eg 05/05/2002, or the last validated meter reading if permanent estimate supplied.
Primary Metering Contact Participant Identifier	Char 4	M	Must be a valid Primary Metering Contact.
Meter Identifier	Char 15	M	Unique identifier of meter.
Meter Multiplier	Numeric 3.3	M	Multiplier (up to three decimal places) to transform readings difference to actual usage. Checked against the value of the Meter Multiplier Flag of the Metering event applicable on the Actual Transfer Date. If the Metering event Meter Multiplier Flag is ‘Y’ then at least one of the Meter Multipliers for this premise must have a value other than unity, ie not 1.
Register Dials	Numeric 2	M	Number of dials/digits on the meter’s registers. Valid values are between 4 and 12.

Meter Location Code	Char 3	M	Value must be one of those in the list of valid meter location codes held by the registry.
Name	**Type**	**Mandatory/ optional**	**Description**
Average Daily Consumption	Numeric 6	M	Value indicates average kWh per day for last read period.
Key Held Indicator	Char 1	M	'Y'/'N'.
Number Of Registers	Numeric 2	M	Number of registers for this meter. The total number of registers for the premises (for this ICP) must be greater than or equal to the Meter Register Count of the Metering event applicable on the Actual Transfer Date. This is a count of the number of non half-hour meter registers only. A register for this file is defined as one that returns cumulative non half-hour meter readings used by participants in the preparation of submission files.
Meter Reader Notes	Char 50	O	Free text.
For each register within the meter:			There must be exactly <number of register> rows after each 'M' row.
Record type	Char 1	M	'R'—register.
ICP	Char 15	M	ICP Identifier.
Meter Identifier	Char 15	M	Unique identifier of meter. Must be the same as in the preceding M record.
Register Number	Numeric 2	M	Sequential register number (identifier).
Register Content	Char 6	M	Valid register content code – see static data sub-process, eg D—daytime only, N—night-time only.
Period of Availability	Numeric 2	M/O	Minimum service hours of supply per day. Required if register has controlled or inclusive load. (See register content codes – static data maintenance sub-process.)
Register Units	Char 6	M	Valid register unit – see static data maintenance sub-process, eg kWh, kW, kVA, kVArh.
Energy Flow Direction	Char 1	M	Valid values are 'L' for load and 'G' for generation.

Register Reading	Numeric 12	M	Reading value, for this register on this date. Number of digits must not be greater than the number of dials.
Name	**Type**	**Mandatory/ optional**	**Description**
Actual or Estimate	Char 1	M	Indicates whether the read was an actual or estimate. Valid values: (A)ctual, i.e. validated meter reading, or (E)stimate, i.e. permanent estimate.
Example: HDR,RQSWITCHNC,RETA,RGST,19/07/2007,14:48:34,3 P,9999999999AB123,RETA,01/01/2009,RETA,1,premises user ref M,9999999999AB123,17/12/2008,,6677AB,,,,12.33,Y,1,MetrNotes R,9999999999AB123,6677AB,12,,,,,,1234,A			

Processing:

System

1. Validates all attributes and checks their dependencies.
2. Checks that the most recently completed switch for the ICP was either a standard non-half-hour (S) or a standard non-half-hour move (SM) switch.
3. Checks that the NC is being sent by the new Trader of the most recently completed switch.
4. Checks that the Actual Transfer Date, number of meters and User Reference attributes are the same as those given on the TN message of that switch sequence.
5. Rejects any NC with errors and returns it to the sender with the reason for the rejection.
6. Keeps a partial copy of the NC comprising the Actual Transfer Date, relay owner, number of meters and User Reference attributes.
7. Generates an audit trail for the partial NC.
8. Sends the complete NC to the losing Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters.
9. Generates an acknowledgement for the NC to the other Trader.

Data outputs:

Partial copy of the NC and its associated audit trail information stored on registry for online query.

NC to forward to the other Trader.

Acknowledgements.

Sub-process:	**RC-020 Acknowledge switch read change (AC)**
Process:	Trader changes switch read
Participants:	Traders
Code references:	Clauses 6(b) and 12(2)(b) and (3) of Schedule 11.3 of the Code
Dependencies:	

Description:

The losing Trader, having received a notice to change the validated meter reading or permanent estimate (NC) on any completed switch that has not been or is not in the process of being withdrawn, sends an acknowledge switch read change message (AC) to the registry in reply. The acknowledgement can either accept or reject the change request.

Business requirements:

1. The Trader receiving a notice to change a validated meter reading or permanent estimate must respond to it by sending an AC message to the registry.
2. The registry must keep a copy of the AC message for a minimum of 3 months.
3. If the AC is for an acceptance of the change, the registry must forward the associated NC to the affected Distributor and Meter Owner.
4. An audit trail and an acknowledgement must be generated for the AC message.
5. The AC message must be forwarded to the other Trader by the registry in a file and in accordance with the other Trader's switch notify parameters.
6. An AC cannot be corrected or reversed once accepted by the registry.

Data inputs:

Each attribute on an input line is comma separated.

AC (acknowledge change request of switch read) attributes are:

Name	Type	Mandatory/ optional	Description
Record type	Char 1	M	Must be ‘P’ - premises
ICP	Char 15	M	
Trader	Char 4	O	Trader that submits the change acknowledgement. Can be derived by system.
Actual Transfer Date	Date		DD/MM/YYYY. Used to identify the switch.

Switch read acknowledgement	Char 1	M	A—change accepted. R—change rejected.
Name	**Type**	**Mandatory/ optional**	**Description**
User Reference	Char 32	O	Free text.
Example: HDR,RQSWITCHAC,RETB,RGST,10/07/2007,11:00:00,1 P,9999999999AB123,RETB,01/01/2009,AC USerReference			

Processing:
System 1. Validates all attributes and checks their dependencies. 2. Checks that the responding Trader is allowed to send the AC message. 3. Rejects an AC with errors and returns it to the sender with a reason for the rejection. 4. Forwards the AC to the other Trader either immediately or as part of a later batch in accordance with that Trader's switch notify parameters. 5. If the AC switch read acknowledgement is A—accept, the associated (prior) NC is to be forwarded to the affected Distributor and Meter Owner, via an overnight batch file. 6. Generates an acknowledgement of the AC for the responding Trader.

Data outputs:
Stored copy of the AC message and its associated audit trail information. AC message to be forwarded to the other Trader. If the AC switch read acknowledgement is A—accept, the associated (prior) NC is to be forwarded to the affected Distributor and Meter Owner. Acknowledgement.

Sub-process:	**DS-010 Transfer ICPs between Distributors**
Process:	Switching
Participants:	Registry manager
Code references:	Schedule 11.2
Dependencies:	

Description:

This process is used primarily to accommodate acquisitions or mergers of Distributors, to facilitate transfer of ICPs from one Distributor Participant Identifier to another. The process is managed by the Authority, and performed by the registry manager.

Business requirements:

The registry manager accepts instructions from the Authority in the form of a file in CSV format containing a list of ICPs to be transferred, plus data associated with each ICP. The spreadsheet may optionally contain a one-row header line.
Based on these instructions, the registry transfers the ICPs to the new Distributor Participant Identifier in a single operation. The registry does not manage any transfer negotiation. Results (acknowledgement) and notifications are advised in the normal manner.
Updates for large files (>1000 ICPs) may require process scheduling by mutual agreement between the Authority and the registry manager.

Data inputs:

Pre-requisites to this process are valid NSP Mapping records for the new Distributor (added by the Reconciliation Manager) and valid Distributor Price Category and loss factor codes (added by the new Distributor).

The NSP Mapping must be for the new Distributor and POC that are supplied in the Distributor transfer file.

Each attribute on an input line is comma separated.

Name	Type	Mandatory/ optional	Description
Record type	Char 3	M	Must be “DET”
ICP	Char 15	M	
Transfer effective date	D/MM/	M	

	YYYY		
Old network	Char 4	M	Participant identifier of the old Distributor
New network	Char 4	M	Participant identifier of the new Distributor
New POC	Char 7	M	POC for NSP mapping
Reconciliation Type	Char 2	M	Existing Reconciliation Type, provided for validation purposes only.
Dedicated NSP	Char 1	M	Existing Dedicated NSP (Y/N), provided for validation purposes only.
Installation Type	Char 1	M	Existing Installation Type (L, G, B), provided for validation purposes only.
Proposed Trader	Char 4	M	Ignored if ICP Status is other than NEW or READY
Unmetered Load Details - Distributor	Char 30	O	Existing Unmetered Load Details, provided for validation purposes only.
Shared ICP List	Char 200	O	Existing list of ICP Identifiers, space delimited. Only valid if Reconciliation Type is SI, provided for validation purposes only.
New Distributor Price Category Codes	Char 50	M	Multiple allowed, space delimited
New Distributor Loss Category Code	Char 7	M	

Distributor Installation Details	Char 30	O	Existing Installation Details, provided for validation purposes only.
Chargeable Capacity	Num 7.2	O	Existing Chargeable Capacity, provided for validation purposes only.
User Reference	Char 32	O	Free text.
Example: DET,9999999999AB123,01/01/2009,NETA,NETB,ABC0111,GN,N,L,RETA,,,PRCat1 PRCat2,LCat1,,,UserReference			

Processing:
System 1. Performs the following validation for each ICP: Validates all parameter formats. The effective transfer date is in the future, or not more than two calendar months in the past. The ICP exists at the effective transfer date. The ICP has no network or Pricing events dated beyond the transfer effective date. The ICP belongs to the old Distributor at the transfer effective date. The new Distributor is valid at the transfer effective date. The Reconciliation Type does not change the type of the ICP ie from standard to Distributor-only or vice-versa. The NSP Mapping with new POC exists and is valid for the new Distributor at the transfer effective date. The Distributor Loss Category Code and Distributor Price Category Code(s) exist and are valid for the new Distributor at the transfer effective date. The values are unchanged for Reconciliation Type, Dedicated NSP, Installation Type, Unmetered Load Details - Distributor, Shared ICP List, Installation Details, Chargeable Capacity. 2. For each ICP meeting validation requirements: A new Network event is recorded for the ICP, effective transfer date and supplied Network event data. A new Pricing event is recorded for the ICP, effective transfer date and supplied Pricing event data. 3. If the ICP was previously at *New*" state, and the addition of any network or pricing data allows it to become *Ready* (or in the case of a Distributor-Only ICP, to become *Distributor-Only*), a

Status event is recorded for the ICP and effective transfer date. 4. An audit trail is maintained. 5. An acknowledgement is generated for each event created. For each ICP, this indicates success, or an error code notifying the reason for rejection 6. For each ICP successfully updated, notifications showing the ICPs new values are generated for the old and new Distributor. If a Status event is created, and there is no current or future Reconciliation event, a notification is also generated for the Proposed Trader. 7. For each ICP successfully updated, notifications will be generated for any Traders and Meter Owners current at the transfer effective date.
Data outputs:
ICP updated with network and Pricing events recording new Distributor details and User Reference. Audit. Notification to old and new Distributor (and possible notifications to Proposed Trader, current Trader and current Meter Owner). A switch in progress will result in notifications to both Traders involved in the switch. Acknowledgement.

3.4 Reporting

Sub-process:	**PR-010 Produce ICP list (on demand)**
Process:	Produce reports
Participants:	Traders, Distributors, Authority, Meter Owners, Reconciliation Manager
Code references:	Clause 11.19 of the Code
Dependencies:	

Description:
This report is used to show the state of a participant's ICPs over time. It can be requested by Traders, Distributors, Meter Owners and the Authority. The participant specifies which ICPs to include in the report by providing a set of selection criteria or a list of ICP Identifiers. The report is produced for a given Event Date range. The output of addresses for the ICPs is optional and selectable.

Business requirements:

1. The report must show the values of all attributes at the start of the date range and all subsequent changes made during the date range. For every change, all attributes must be shown.
2. The report must be produced as a file in CSV format, as a minimum standard.
3. Events that have been reversed or replaced must not be reported.
4. When selection criteria are used:
   - users must be prevented from using the report as a means of trawling through the ICP database to extract information from ICPs they do not own,
   - the output must only show ICP information for Event Dates that were within the submitter's period of ownership AND are within the specified date range.
5. When a list of specific ICP Identifiers is provided, the output must show all the ICP information within the specified date range, ie it must ignore ownership restrictions. Ownership restrictions also do not apply to Distributor-only ICPs. All participants should be able to extract information for Distributor only ICPs when selection criteria of Status includes 'Distributor' and/or the selection criteria of Reconciliation Type includes 'LE' or 'SI'.
6. Where the report requester has more than one role, the report should extract ICP information for all the requester's roles (and be selectable). However, the report should not display duplicate information. For example, if the requester is both a Distributor and a Meter Owner, any ICP information where the requester is both the Distributor and the Meter Owner is to appear only once in the report.
7. If the Address is not required, the report is to exclude the Address information for each ICP output.
8. Selection criteria and ICP lists must be able to be submitted online or via a file.
9. The Authority and the Reconciliation Manager must be able to view information for all participants.

Data inputs:

Each parameter line is preceded by a line type identifier consisting of "PRAMnn"
where nn refers to the parameter number.

Leaving an optional parameter blank it is assumed that ALL values are required, i.e. there is no filter.

Multiple space separated values may by input for search criteria.
Each attribute on an input line is comma separated.

Name	Type	Mandatory /Optional	Description/Example
List Type	Char 1	M	I – indicates a list of ICPs is provided in the file (after PRAM02) P – indicates a set of parameters defining the selection criteria

			D – indicates a set of ICPs is provided (after PRAM04) which are date bounded S – indicates a “snapshot” of currently owned ICPs is required.
Include Address	Char 1	M	Y/N
If List Type is “I” the following parameters are required			
Detail record type	Char 3	M	Must be “DET”
ICP number	Char 15	M	Valid ICP number
DET lines re-occurring			
If List Type is “P” the following parameters are required			
Status	Char 20	O	Report only ICPs with the entered Status.
[1]Trader / Distributor	Char 25	O	List of participant codes. If a Trader is submitting the request the codes must be for Distributors, if a Distributor is submitting the report the participants must be Traders.
Reconciliation Type	Char 25	O	
POC	Char 25	O	
Proposed Trader	Char 25	O	
Roles	Char 1	O	If a participant has multiple roles then define under what role the request has been made. For example if a participant is both a MEP and Trader they may request the report as a MEP which will provide visibility to ICPs where they are not the Trader. Values are R – Trader D – Distributor M – MEP Blank is the participants default role, e.g. if both Trader/Distributor and MEP will default to Trader/Distributor
Profile	Char 25	O	
MEP	Char 25	O	If a MEP is submitting the request then this is ignored.
Submission Type	Char 11	O	e.g. NHH, HHR, UNM
Metering Category	Char 25	O	No longer applicable
Distributor Price Category	Char 25	O	
Distributor Loss Category	Char 25	O	
Installation Type	Char 6	O	
Start Date	DD/MM/YYYY	M	Report ICPs that submitting participant had responsibility for as at this date
End Date	DD/MM/YYYY	M	Report ICPs that submitting participant had

			responsibility for as at this date
If List Type is “D” the following parameters are required			
Start Date	DD/MM/YYYY	M	Report ICPs that submitting participant had responsibility for as at this date
End Date	DD/MM/YYYY	M	Report ICPs that submitting participant had responsibility for as at this date
Detail record type	Char 3	M	Must be “DET”
ICP number	Char 15	M	Valid ICP number
DET lines re-occurring			
If List Type is “S” the following parameters are required			
Roles	Char 1	O	
<u>List Type I example</u>: HDR,RQICPLIST,CTCT,RGST,27/12/2001,11:13:12,3,list this ICP PRAM01,I PRAM02,N DET,9999999999AB123			
List Type P example: HDR,RQICPLIST,CTCT,RGST,27/12/2001,11:13:12,17,list these ICP’s PRAM01,P PRAM02,Y PRAM03,001 002 PRAM04,RETA RETB PRAM05,GN PRAM06,HOR0661 HOR0331 PRAM07,RETA PRAM08,R PRAM09,GXP PP1 PP2 PRAM10,MET1 MET2 PRAM11,UNM HHR PRAM12, PRAM13,PrCat PRAM14,LCat PRAM15,L PRAM16,01/04/2009 PRAM17,30/04/2009			
List Type D example HDR,RQICPLIST,CTCT,RGST,27/12/2001,11:13:12,5,list ICP’s PRAM01,D PRAM02,Y PRAM03,01/04/2009 PRAM04,30/04/2009 DET,9999999999AB123			
List Type “S” example: HDR,RQICPLIST,CTCT,RGST,27/12/2001,11:13:12,2,list ICP’s PRAM01,S PRAM02,M			

[1] When the report is requested by a Trader, the value of this parameter must be that Trader's own Trader code. The output will include all those *new* and *ready* ICPs for which the Trader is nominated as the Proposed Trader. Note that in this instance the ICPs will not be 'owned' by the Proposed Trader as there will not have been a Trader assigned.

Processing:

1. Validate report selection criteria.
2. Deliver output to correct party.

Data outputs:

Each attribute on an output line is comma separated.
Report information:

Name	Format	Description (if value not directly obtained from the registry database)
Record Type	Char 3	"DET"
ICP Identifier	Char 15	
ICP creation date	DD/MM/YYYY	The date the ICP Identifier of the ICP was first entered on the registry (Event Date).
Original commissioning Event Date	DD/MM/YYYY	The effective date that the Proposed Trader took responsibility for the ICP (Event Date).
Event start date	DD/MM/YYYY	The Event Date of the change or the date given by start date parameter, whichever is later.
Event end date	DD/MM/YYYY	The day before the Event Date of the next change event, or today's date, or the date given by the end date parameter, whichever is earlier.
NSP event audit number	Char 15	
Network (Distributor)	Char 4	Valid Participant Identifier for Distributor.
POC	Char 7	
Reconciliation Type	Char 2	
Dedicated NSP	Char 1	
Installation Type	Char 1	
Proposed Trader	Char 4	
Unmetered Load Details – Distributor	Char 50	
Shared ICP List	List	
NSP User Reference	Char 32	

Pricing audit number	Char 15	
Distributor Price Category Code	Char 50	
Name	**Format**	**Description (if value not directly obtained from the registry database)**
Distributor Loss Category Code	Char 7	
Chargeable Capacity	Numeric 7.2	
Distributor Installation Details	Char 30	
Pricing User Reference	Char 32	
Reconciliation audit number	Char 15	
Trader	Char 4	
Profile	Char 25	
Reconciliation User Reference	Char 32	
Metering audit number	Char 15	
Primary metering contact	Char 4	
Metering Category	Numeric 1	
Meter Type HHR	Char 1	
Meter Type NHH	Char 1	
Meter Type UNM	Char 1	
Meter Type PP	Char 1	
Advanced Metering Infrastructure metering infrastructure	Char 1	
Daily Unmetered kWh	Char 6	
Unmetered Load Details – Trader	Char 50	
Meter Register Count	Numeric 3	
Meter Multiplier Flag	Char 1	
Metering User Reference	Char 32	
Status audit number	Char 15	
ICP Status	Char 3	

ICP Status Reason code	Numeric 2	
Status User Reference	Char 32	
Address audit number	Char 15	
Physical Address Unit	Char 20	
Name	**Format**	**Description (if value not directly obtained from the registry database)**
Physical Address Number /RAPID number	Char 25	
Physical Address Region	Char 20	
Physical Address Street	Char 30	
Physical Address Suburb	Char 30	
Physical Address Town	Char 30	
Physical Address Post Code	Numeric 4	
Address Property Name	Char 75	
Address User Reference	Char 32	

Sub-process:	**PR-015 Produce current details report**
Process:	Produce reports
Participants:	Traders, Distributors, Meter Owners
Code references:	
Dependencies:	
Criticality:	Non core

Description:
This report allows selection and reporting of individual attributes on an ICP.

Business requirements:
3. The report must allow selection of ~~any~~ commonly used ICP attributes, the selected attribute(s) will be reported. 4. The report will report the selected attributes on all ICP's for which the participant has responsibility. 5. The report will build a secondary heading based on the attributes selected. 6. The report is available on-line only.

Data inputs:
Selected ICP attributes

Processing:
7. For all ICP's for which the participant has current responsibility report the selected attributes.

Data outputs:

Report information.
The report's secondary heading and output varies depending on the attributes selected.

Name	Type	Mandatory/ Optional	Description/Example
Secondary header variable depending on attributes selected			
ICP Identifier	Char 15	M	
Variable output depending on attributes selected			

For example:
Attributes selected on the Reconciliation event:

- Event Date
- Current audit number
- Date changed
- Trader identifier
- Profiles

Output file produced:
HDR,RSCDLIST,RGST,RETA,17/02/2012,12:05:35,00000212
ICP Number, Event Date,Date Changed,Current Audit,Retailer,Profiles
0000000102TRDBF,01/08/2004,26/09/2005,REC-22158,RETA,RPS MXP
...

Sub-process:	**PR-020 Produce monthly Trader ICP reports**
Process:	Produce reports
Participants:	Traders
Code references:	Clause 11 of Schedule 11.1
Dependencies:	PR-010

Description:

This is an automatic report that is produced by 0900 hours on the first business day of each reconciliation period for each Trader. The report shows the attributes of each ICP for which they are recorded on the registry as the responsible Trader during the preceding 14 months.

Business requirements:

1. The report must show the state of each attribute at the start and end of the date range and all changes made during the date range. For every change, all attributes must be shown.
2. The report must be produced as a file in CSV format, as a minimum standard.
3. Events that have been reversed or replaced must not be reported.
4. The automatic run of this report must be initiated by the registry manager for all Traders (or their agents).
5. The list must include all ICPs for which they are recorded as the responsible Trader within the last 14 months.
6. An automatic run of this report must be initiated by the registry manager with the following parameters: for each individual participants extract only ICPs at which the participant is recorded on the registry as trading, , no address, all ICPs (from event Status) and an Event Date range from the first day of the previous 14th month to the last day of the previous month. N.B. There is no filtering on ICP Status; however, if the ICP has been decommissioned prior to the period covered by the report then it should not be listed.

Data inputs:

Processing:

1. Deliver output to correct party by the time required.

Data outputs:

Report information: See sub-process map PR-010.

Sub-process:	**PR-030 Produce ICP event detail report**
Process:	Produce reports
Participants:	Traders, Distributors, Meter Owners, Authority
Code references:	
Dependencies:	

Description:

This report is used to detail individual events together with their audit trail information. It is available to Traders, Distributors, Meter Owners and the Authority 'on demand'.

The objective of the report is to show participants all events that had some impact on them during a particular period. This could be because they apply to their period of ownership, or involved a change (gain or loss) of their ownership, ie all switch transactions that they were a party to and events where either the Trader, Meter Owner or network changed causing a loss or gain of their ownership.

The report can be selected to show those events that were **input** within a date range (audit date) or that had Event Dates within a date range.

Business requirements:

1. The report must be produced as a file in CSV format, as a minimum standard.
2. When requesting the report using a list of ICPs, the resulting output must show all the ICP events within the specified date range, regardless of impact considerations.
3. If no ICP list is provided then the output must show all events within the specified date range that:
   - were in the requester's period of ownership;
   - involve a switch that the requester was a party to; or
   - involve a loss or gain of the requester's ownership.
4. When the requester's organisation has two roles, (eg network owners and Traders can also be Meter Owners), the report must be generated with reference to the combined roles.
5. When requesting the report to exclude or include reversals and replacements, the date of the reversal or replacement is not taken into account. The fact that they have been reversed/ replaced at some time in the past is sufficient.
6. Selection criteria and ICP lists must be able to be submitted online or via a file.

Data inputs:

Each parameter line is preceded by a line type identifier consisting of “PRAMnn”
where nn refers to the parameter number.
Leaving an optional parameter blank it is assumed that ALL values are required, i.e. there is no filter.
Multiple space separated values may by input for search criteria.
Each attribute on an input line is comma separated.

Name	Type	Mandatory /Optional	Description/Example
Record Type	Char 1	M	I – indicates a list of ICPs is provided in the file P – indicates a set of parameters defining the selection criteria
[1]Trader	Char 4	O	Ignored if Record Type = I
[1]Distributor	Char 4	O	Ignored if Record Type = I
Event Type	Char 40	M	List event types to be reported, one or more as below space separated: REC – reconciliation MET – asset SWI – switch (all REC events caused by switching) ADD – address PRI – pricing NSP - network STA – status NT – NT switch events AN – An switch events TN – TN switch events TT – TT switch events NW - NW switch events AW - AW switch events NC – NC switch events AC – AC switch events ALL – all above events
Physical/Event	Char 1	M	P – search audits using a date range based on when they arrived at the database E – search audits using a date range based on the Event Date
Include Reversals	Char 1	M	Y/N
Sort Option	Char 1	M	Blank – no sort 1 – ICP/Event Type/Date 2 – Event Type/Date/ICP
Start Date	DD/MM/YYYY	M	Start date range to search audits
End Date	DD/MM/YYYY	M	End date range to search audits

Event request example where ICP numbers are supplied:

HDR,RQEVENTDTL,RETA,RGST,27/12/2001,11:13:12,10,list ICP's
PRAM01,I
PRAM02,
PRAM03,
PRAM04,REC AW EP
PRAM05,P
PRAM06,N
PRAM07,1
PRAM08,01/01/2009
PRAM09,31/01/2009
DET,9999999999AB123

Event request example where parameters are supplied:

HDR,RQEVENTDTL,RETA,RGST,27/12/2001,11:13:12,9,list these
PRAM01,P
PRAM02,RETA
PRAM03,NETA
PRAM04,REC
PRAM05,P
PRAM06,N
PRAM07,1
PRAM08,01/04/2002
PRAM09,30/04/2002

[1] Traders can specify Distributors; Distributors can specify Traders. The EA can specify any participant. Only used if a parameter based search is requested.

Processing:

1. Validate report selection criteria.
2. Deliver output to correct party.

Data outputs:

Report information:
Each attribute on an output line is comma separated.
Fields returned vary depending on the Event Type(s) selected

Name	Format	Description (if value not directly obtained from the database)
Record Type	Char 3	"DET"
ICP Identifier	Char 15	

Event type (full description)	Char 14	Variable fields depend on the value of this field. For example, if the event type is 'metering' then immediately after the last fixed field, the Metering event attributes are listed.
Event audit number	Char 15	
Event Date	DD/MM/YYYY	
Event creation date/time	DD/MM/YYYY	
Created by	Char 15	
File name	Char 25	
Event state	Char 8	
Reversal/replaced date/ time	DD/MM/YYYY & HH:MM:SS	
Reversed/replaced by	Char 15	
Reversal/replacement file name	Char 25	
Replacement event audit number	Char 15	
Reconciliation event		Variable fields.
Trader		
Profile		
Reconciliation User Reference		
Metering event		Variable fields.
Primary meter contact		
Metering Category		
Meter Type HHR		
Meter Type NHH		
Meter Type UNM		
Meter Type PP		
Advanced Metering Infrastructure metering infrastructure		
Unmetered Load Details – Trader		
Daily Unmetered kWh		

Name	Format	Description (if value not directly obtained from the database)
Meter Register Count		
Meter Multiplier Flag		
Metering User Reference		
Switch		Variable fields.
Trader		
Address		
Physical Address Unit		
Physical Address Number/ RAPID number		
Physical Address Region		
Physical Address Street		
Physical Address Suburb		
Physical Address Town		
Physical Address Post Code		
Address Property Name		
Address User Reference		
Network pricing		Variable fields.
Distributor Price Category Code		
Distributor Loss Category Code		
Chargeable Capacity		
Distributor Installation Details		
Network pricing User Reference		
NSP		Variable fields.
Network		Valid Participant Identifier for Distributor.
POC		
Reconciliation Type		
Dedicated NSP		

Installation Type		
Proposed Trader Participant Identifier		
Unmetered Load Details – Distributor		
Shared ICP List		
Network User Reference		
Status		Variable fields.
ICP Status		
ICP Status Reason code		
Status User Reference		
NT		Variable fields.
Trader		
Install Address Unit		
Install Address Number/ RAPID number		
Install Address Region		
Install Address Street		
Install Address Suburb		
Install Address city		
Install Post Code		
Install Property Name		
Proposed Transfer Date		
Switch Type		
Proposed Profiles		
User Reference		
AN		Variable fields.
Trader		
Response Code		
Expected Transfer DateExpected Transfer Date		
User Reference		

TN		Variable fields.
Trader		
Actual Transfer Date		
Relay OwnerRelay Owner		
Number Of Meters		
User Reference		
TT		Variable fields.
Trader		
Actual Transfer Date		
ICP Status		
Status Reason		
Primary Metering Contact Participant Identifier		
Metering Category		
Meter Type HHR		
Meter Type NHH		
Meter Type UNM		
Meter Type PP		
Meter Type ADV		
Unmetered Load Details – Trader		
Daily Unmetered kWh		
Meter Register Count		
Meter Multiplier Flag		
Profile		
User Reference		
NW		Variable fields.
Trader		
Advisory code		
User Reference		
AW		Variable fields.
Trader		

Withdrawal Transfer Status		
User Reference		
NC		Variable fields.
Trader		
Actual Transfer Date		
Relay OwnerRelay Owner		
Number Of Meters		
User Reference		
AC		Variable fields.
Trader		
Switch Read Acknowledgement		
User Reference		

Sub-process:	**PR-035 Produce ICP Attribute Changes**
Process:	Produce reports
Participants:	Authority
Code references:	
Dependencies:	
Criticality:	Non-core

Description:
This report is used to detail daily changes to ICP attributes

Business requirements:
The report provides information to the Authority's data warehouse for analysis of switch trend information. <u>Daily extract</u> The net results of ICP Attribute updates occurring the previous day are reported. The resulting extract file will be delivered to the Authority's FTP fromreg folder and the Authority's SFTP server. The target delivery time is 6am. The extract is sorted by Event Type, Event Date and ICP Identifier. File output name will be "ICPEventFile_<timestamp>.csv" where timestamp is format "yyyymmddhhmmss" and specifies the report run time.
<u>Baseline Data extract</u> A special case of this report is a *baseline data extract* which can be obtained upon arrangement with the registry manager. This baseline report includes attributes for all ICP's which resided in the registry as at a date specified by the Authority. This will contain one record for each ICP and event type (Address, Network, Pricing, Trader, Metering, Status), and does not include switch messages. The resulting extract file will be delivered to the Authority's FTP fromreg folder and the Authority's SFTP server.

Data inputs:
1. Daily report (or Baseline report, by arrangement only) 2. Report start date 3. Report end date (daily report only).

Processing:
Baseline Report 1. Read all ICP records at the report date 2. Generate output file with ICP events as the report date 3. Transfer the output file to the Authority FTP fromreg folder 4. Transfer the output file to the Authority SFTP server Daily Extract 1. Read the event audit records that have been updated in the registry in the reporting day. 2. Identify the net effective event updates for the previous day 3. Generate output statistic file 4. Transfer of output file to: i. Authority FTP fromreg folder ii. Authority SFTP server

Data outputs:	
Format for the baseline report is as defined for report PR-030, and includes base events only. Format for the daily report is as defined for report PR-030, with the following modifications:	
ICP Identifier	As PR-030
Event Description	As PR-030
Event Audit Number	As PR-030
Event Date	As PR-030
Event Creation Date/Time	As PR-030
Created By	As PR-030
File name	As PR-030
Event state	As PR-030
Reversal/replaced date/ time	Blank
Reversed/replaced by	Blank
Reversal/replacement file name	Blank

Creation event audit number		Populated where the event is a reversal or replacement and cross references to the Audit Number which created the Event
TN		Variable fields.
Trader	As PR-030	
Actual Transfer Date	As PR-030	
Relay OwnerRelay Owner	As PR-030	
Number Of Meters	As PR-030	
User Reference	As PR-030	
Meter Location Codes	New	Multiple codes are space-delimited
Register Content Codes	New	Multiple codes are space-delimited

Sub-process:	**PR-040 Produce switch compliance reports**
Process:	Produce reports
Participants:	Traders, Authority
Code references:	11.23 and 11.19
Dependencies:	

Description:

This is an automatic report that is produced every month by 1600 hours on the first business day of each reconciliation period for the Authority. It can also be requested 'on demand' at other times by Traders and by the Authority. Traders can only obtain information pertaining to themselves. The Authority can select information for individual or all Traders.

There are two types of switch compliance reports: historical and current.

The 'historical' reports show, either in summary or in detail, those switch transactions that were not received by their due date, where the due date was in the past. The Authority requires the automatic delivery of both the summary and detail historical reports for potential Code breaches of the previous consumption period.

The 'current' reports show, either in summary or in detail, which switch transactions have not been completed 'as at' today, either because the relevant switch message has not arrived and, either the due date has passed (overdue), or because the due date has not been reached yet. This report is used to show work in progress.

Business requirements:

Calculation of due dates

The provisions for the calculation of due dates of each potential breach type need to be maintainable by the Authority as they may change over time. The provisions set out in this report relate to the receipt of the following breach types within certain timeframes by the intended recipient:

AN delivery—an AN must be delivered by the losing Trader within 2 business days of the receipt of an NT unless a TN or NW notice was provided within this time.

TN delivery—a TN must be delivered by the losing Trader within 10 business days of the receipt of the NT if an AN or NW notice has been received. If an AN or NW notice has not been received, the TN must be delivered within two business days of the receipt of the NT.

TN Event Date—a TN must be delivered within two business days of the Actual Transfer Date recorded on the same TN or (if the Actual Transfer Date was backdated) within two business days of the receipt of the NT, whichever is the later date.

TT Event Date—a TT must be delivered within three business days after the Actual Transfer Date recorded on the same TT or (if the Actual Transfer Date was backdated) within two business days

Business requirements:
of the receipt of the NT, whichever is the later date. **NW delivery**—an NW must be delivered by either Trader within two business days of the receipt of the NT unless an AN or TN notice was provided within this time. **AW delivery**—an AW must be delivered within five business-days of the receipt of the corresponding NW. **Withdrawal cycle resolution**—an AW acceptance must be delivered within 23 business days of the receipt of the initial NW unless an AN, TN or TT was provided in this time. **NC delivery**—an NC must be delivered within four calendar months after the Actual Transfer Date of the latest TN. **AC delivery**—an AC must be delivered within five business days of the receipt of the corresponding NC. Note that after the receipt of an NT, if either the AN, TN or NW is received late then the report will show three breaches – an AN delivery breach, a TN delivery breach and an NW delivery breach. It must be noted that the 'delivery' of a message, for compliance purposes, means the time the message was sent to the registry. Delivery to the required party is assumed to be 'immediate' even though the time between the registry receiving the messages and their delivery to the required party could be significantly different as participants can elect that the registry sends switch messages at specific times of the day (see switch notify parameters). However, if the message was received by the registry after 1930 hours, it is deemed to be provided at 0730 hours the next day (clause 11.20(2) of the Code). Note also that TN Event Date, TT Event Date and NC delivery breaches are not relevant to the 'current' switch breach reports as they cannot be evaluated until they have actually been received. **Calculation of days overdue** Days overdue = Number of days between (date of delivery of relevant document to participant, due date), where date of delivery is after due date. If the relevant document has not arrived (no date of delivery), then for reporting purposes use today's date (runtime of the report). Assume document has until midnight to arrive. **Calculation of business days** From Part 1 of the Code: "**business day**" means any day of the week except Saturdays, Sundays, **national holidays** and any other day from time to time declared by the **market administrator** not to be a **business day** by notice to each **registered participant** in the manner set out in the Code; Business days must be treated as calendar days, not multiples of 24 hours. For example, registry routes NT to Trader at any time on 23 January; current Trader then has until midnight on 25 January to deliver the AN back to the registry. Note: There may be multiple potential breaches per ICP: for example, an AN not received and TN not received (this counts as two breaches); NT sent out by the registry on 2 April 2002, no AN

Business requirements:
received at all, TN received by the registry on 19 April 2002. The report should output this as a breach of type AN with days overdue equal to 10 (assuming no holidays).

Data inputs:			
Each parameter line is preceded by a line type identifier consisting of "PRAMnn" where nn refers to the parameter number. Leaving an optional parameter blank it is assumed that ALL values are required, i.e. there is no filter. Multiple space separated values may by input for search criteria. Each attribute on an input line is comma separated.			
Name	**Type**	**Mandatory /Optional**	**Description/Example**
Switch Type	Char 15	M	S SM H HM HN NH
Breach Type	Char 29	M	AC (AC Delivery) AN (AN Delivery) AW (AW Delivery) NC (NC Delivery) NW (NW Delivery) TN (TN after an AN) T2 (TN after an NT) E2 (TN Event Date) TT (TT – historical only) E3 (TT Event Date) WC (AW acceptance – withdrawal cycle resolution)
Summary or Detail	Char 1	M	S or D
For the current report a single date parameter is required:			
As At Date	DD/MM/YYYY	M	Input ignored, this is always defaulted to today's date
For the historical report date range parameters are required:			
Start Date	DD/MM/YYYY	M	
End Date	DD/MM/YYYY	M	
Current and historical report parameters are the same from this point onwards			
Days Due or over due	Num 3	M	If negative then days until due, if positive then days over due
Days Due or over due	Num 3	M	If negative then days until due, if positive then days over due
Days Due or over due	Num 3	M	If negative then days until due, if positive then days over due
[1]Days Due or over due	Num 3	M	If negative then days until due, if positive then days over due

Trader	Char 4	M	The submitting Traders participant code, EC may enter any code.
Breach Party	Char 1	O	B – report breaches on both participants in the breach S – report breaches you are responsible for O – report breaches other participant is responsible for
[1]an assumed 5th bucket exists which is > than highest positive bucket specified, if no positive value specified then 1 day is assumed			

<u>Switch breach report request example (historical):</u>
HDR,RQCUSWBR,CTCT,RGST,27/12/2001,11:13:12,11,list breaches
PRAM01,S HN
PRAM02,TT E3
PRAM03,D
PRAM04,01/09/2009
PRAM05,30/09/2009
PRAM06,-20
PRAM07,-10
PRAM08,5
PRAM09,10
PRAM10,RETA
PRAM11,B

<u>Switch breach report request example (current):</u>
HDR,RQCUSWBR,CTCT,RGST,27/12/2001,11:13:12,10,list breaches
PRAM01,S HN
PRAM02,TT E3
PRAM03,D
PRAM04,
PRAM05,-20
PRAM06,-10
PRAM07,5
PRAM08,10
PRAM9,RETA
PRAM10,B

For the historical report

1. From/to date range: transactions that had due dates in this range.
2. Days overdue or ageing buckets: for the detail report, only the minimum days overdue is specified (minimum value is 1). For the summary report, the user can specify up to four ageing buckets. The resultant report must generate an additional column for all overdues greater than the final bucket. The values are to be input in sequence, i.e. in ascending sequence.

For the current report

1. Ageing buckets (summary report only): The report can be produced summarising transactions that are overdue as at today's date and also those due in the future. The resultant report generates an additional column for all greater than the final bucket input. If requiring those due in the future in a bucket, negative values are input. The values should be input in ascending sequence, ie greatest negative through to the highest positive.
2. Days till due (detail report only): Selects those due within this number of days (from today's date).
3. Days overdue (detail report only): Selects those with this minimum number of days overdue.

Processing:

For the history summary report system

1. Calculates the due dates.
2. Selects those where:
   - they are overdue;
   - the specified Trader(s) was a participant (sender or other participant);
   - the due date is within the from/to date range specified; and
   - all other selection criteria is satisfied.
3. Assigns the days overdue count into one of the user-specified ageing buckets or the system-generated catch-all bucket. It is possible that the transaction does not fall into any bucket therefore is excluded from the report.
4. Determines the participant in breach (defaulting participant).
5. Sorts the report by switch type/breach type/defaulting participant.

For the history detail report system

1. Calculates the due dates.
2. Selects those where:
   - they are overdue;

Processing:

- the specified Trader(s) was a participant (sender or other participant);
- the due date is within the from/to date range specified; and
- all other selection criteria is satisfied.

3. Selects only those transactions overdue by a number of days equal to or greater than the *days overdue* input by user.
4. Determines the defaulting participant.
5. Sorts the output by switch type/breach type/defaulting participant/days overdue (descending).

For the current summary report system

1. Calculates the due dates.
2. Selects those where:
   - the actual arrival date is missing (not arrived yet);
   - the specified Trader(s) was a participant (sender or other participant); and
   - all other selection criteria is satisfied.
3. Determines the days overdue or days till due (ie if due date not reached yet) and assigns the count into one of the user-specified ageing buckets or the system-generated catch-all bucket. For the purposes of this report the days till due are treated as negative values. It is possible that a transaction does not fall in any bucket and therefore is excluded from the report.
4. Determines the defaulting participant.
5. Sorts the report by switch type/breach type/defaulting participant.

For the current detail report system

1. Calculates the due dates.
2. Selects those where:
   - the actual arrival date is missing (not arrived yet);
   - the specified Trader(s) was a participant (sender or other participant); and
   - all other selection criteria is satisfied.
3. Determines the days overdue or days till due. If overdue, selects only those transactions overdue by a number of days equal to or greater than the *days overdue* input by user. If due, selects those transactions less than or equal to the days *till due* parameter.
4. Determines the defaulting participant.
5. Sorts the output by switch type/breach type/defaulting participant/days overdue (descending) then days till due (descending).

NB: If the user specified all breach types then an ICP could potentially be included several times in

Processing:
the report.

Data outputs:		
The current/details output line is preceded by a line type identifier consisting of “DET” (detail). All other output files have no line type identifier and start with the Switch Type. Each attribute on an output line is comma separated.		
History summary output information		
Name	**Format**	**Description**
Switch Type	Char 2	From qualifying event.
Breach type	Char 2	
Defaulting participant	Char 4	Derived by system.
Other participant	Numeric	The non-defaulting participant impacted by the switch.
Total count in breach	Numeric	Total of ageing 1 to 5.
Ageing 1	Numeric	Overdue <= ageing 1 days.
Ageing 2	Numeric	Overdue > ageing 1 days and <= ageing 2 days.
Ageing 3	Numeric	Overdue > ageing 2 days and <= ageing 3 days.
Ageing 4	Numeric	Overdue > ageing 3 days and <= ageing 4 days.
Ageing 5	Numeric	Overdue > ageing 4 days.
History detail output information		
Switch Type	Char 2	From qualifying event.
Breach type	Char 2	
Defaulting Participant Identifier	Char 4	Derived by system.
Other Participant Identifier	Char 4	The non-defaulting participant impacted by the switch.
ICP #	Char 15	
Sent date	DD/MM/YYYY	The date the NT, TN, TT or NW notice was sent by the registry to the recipient.

Data outputs:		
Due date	DD/MM/YYYY	The date that notice of the switch event that is subject to a breach was due to be received (Event Date).
Completion date	DD/MM/YYYY	The date that notice of the switch event that is subject to the breach was completed (actual arrival date).
Days overdue	Numeric	Number of business days the event is overdue.
Current summary output information		
Switch Type	Char 2	From qualifying event.
Breach type	Char 2	
Defaulting participant	Char 4	Derived by system.
Other participant	Char 4	The non-defaulting participant impacted by the switch.
Total count in breach	Numeric	Total of ageing 1 to 5.
Ageing 1	Numeric	Overdue or due <= to ageing 1 days.
Ageing 2	Numeric	Overdue or due > ageing 1 days and <= to ageing 2 days.
Ageing 3	Numeric	Overdue or due > ageing 2 days and <= to ageing 3 days.
Ageing 4	Numeric	Overdue or due > ageing 3 days and <= ageing 4 days.
Ageing 5	Numeric	Overdue or due > ageing 4 days.
Current detail output information		
Switch Type	Char 2	From qualifying event.
Breach type	Char 2	
Defaulting Participant Identifier	Char 4	Derived by system.
Other Participant Identifier	Char 4	The non-defaulting participant impacted by the switch.
ICP Identifier	Char 15	
Sent date	DD/MM/YYYY	The date the NT, TN, TT or NW notice was sent by the registry to the recipient.
Due date	DD/MM/YYYY	The date that notice of the switch event that is subject to a breach was due to be received.

Data outputs:		
Days till due	Numeric	Number of business days from today's date until the event is due (calculated if the due date is in the future).
Days overdue	Numeric	Number of business days the event is overdue.

Sub-process:	**PR-050 Produce ICP days report**
Process:	Produce reports
Participants:	Reconciliation manager
Code references:	Clause 11.26(a) of the Code.
Dependencies:	

Description:

This report is produced for the Reconciliation Manager automatically twice a month and on demand. The report identifies the number of ICP days, per NSP, differentiated by half-hour metering type or non-half hour metering type attributable to each Trader for NSPs that are recorded on the registry as consuming electricity during the consumption period(s) (i.e ICPs that had the Status of *active*). Only ICPs with Installation Types of 'Load' and 'Both' are included.

Business requirements:

1. The registry must deliver the information to the Reconciliation Manager for the prior consumption period by 1600 hours on the 4th business day of the current reconciliation period.
2. The registry must deliver revised information to the Reconciliation Manager in respect of the immediately preceding 14 consumption periods, by 1600 hours on the 13th business day of the current reconciliation period.
3. The calculation for each Trader includes all those ICPs for which a Trader was responsible during the relevant consumption period that were active during that time. The number of active days is split by month.
4. Only ICPs with Installation Types of 'Load' and 'Both' are included.
5. The ICP days calculated per ICP and month (consumption period) are then summarised by NSP, metering type and month. Metering types of unmetered and pre-pay are to be treated as non-half-hour metering types.
6. Where an ICP has both half-hour and non-half-hour metering types, two entries are to appear on this report (they will have the same number of ICP days calculated for each metering type).
7. The report must be able to be re-sent for a particular month via an ftp request.

Data inputs:

Report request consists of a header record followed by a single line detailing the ICP Days parameters

Name	Format	Mandatory/ Optional	Description/Example
Record Type	Char 3	M	Must be “DET”
~~File Type~~	~~Char 3~~	~~M~~	~~Type of file to be reported, Recognised types are~~ ~~ACK – overnight acknowledgement files~~ ~~NOT – overnight notification files~~ ~~SW – switch files~~ ~~ALL – all~~
Reporting Type ~~Period~~	Integer	M	1 – 1 month period 14 – 14 month period
Reporting Period	MMYYYY	M/O	Mandatory of Reporting Type is 1, this will be the period being reported. Optional if Reporting Type is 14, 14 month report will be produced from end of previous reporting period back 14 months
Participant Identifier	Char 4	M	Participant whose ICP days will be reported
Request example: HDR,RQMICPDAYS,NZRM,RGST,24/02/2012,10:11:12,1,ListDays DET,1,102011,RETB			

Processing:
1. For each preceding consumption period, for each Trader, calculate by NSP and meter category, the total number of days during which ICPs owned by the Trader were *active*. 2. Sort by month (descending), Trader, metering type and NSP. 3. Each attribute on an output line is comma separated

Data outputs:		
ICP days output information		
Name	**Format**	**Comment**
Record Type	Char 3	“DET”
Month	MM/YYYY	Consumption period (format mm/yyyy).
Trader Identifier	Char 4	Trader Participant Identifier.
Metering Type	Char 3	‘NHH’ or ‘HH’.
NSP	Char 11	NSP identifier.
ICP days	Numeric	Calculated value – total number of days the Trader’s ICPs were active for NSPs recorded on the registry as consuming electricity during the consumption period. Note that *NSP consumption* is inferred from the consumption of ICPs recorded at that NSP.
Example: HDR,RSMICPDAYS,RGST,RETA,24/02/2012,11:02:13,00000002,ListDays DET,01/2011,RETB,NHH,NETAABY0111,123 DET,01/2011,RETB,NHH,NETAAZZ0111,14		

Sub-process:	**PR-060 Produce audit log**
Process:	Produce reports
Participants:	Distributors, Traders, Meter Owners, Authority.
Code references:	11.19
Dependencies:	

Description:
The user can request ‘on demand’ that the registry sends them a log of all the files the registry has delivered to them, over a specified period, in order to check that the registry has processed all the information the participant has sent.

Business requirements:

1. The registry must be able to provide all users with a log giving all the dates and times when files were sent by it to the user’s company.
2. The user must be able to specify a period during which files were sent.
3. Only details of files sent to the requesting user’s company must be included in the log.
4. The log must include details of all types of file sent, ie switching messages, acknowledgements, notifications and reports.
5. For each file, the log must contain the time and date it was sent.
6. The registry must deliver the log immediately in a single file.

Data inputs:

Leaving an optional parameter blank it is assumed that ALL values are required, i.e. there is no filter.
Multiple space separated values may by input for search criteria.

Name	Format	Mandatory/ Optional	Description/Example
Record Type	Char 3	M	Must be “DET”
File Type	Char 3	M	Type of file to be reported, Recognised types are ACK – overnight acknowledgement files NOT – overnight notification files SW – switch files ALL – all
Start Date	DD/MM/YYYY	M	Start date for query
End Date	DD/MM/YYYY	M	End date for query, must be equal of later than Start Date

Request example:
HDR,RQAUDIT,CTCT,RGST,27/12/2001,11:13:12,2,list files
DET,NOT,01/01/2009,31/01/2009

Processing:

1. Validate selection criteria.
2. Deliver the log to the correct party.

Data outputs:

Each attribute on an output line is comma separated

A file containing the requested audit log.

Name	Format	Description
Record Type	Char 3	Will always be “DET”
File Name	Char 25	
Sent Date	DD/MM/YYYY	Date file was sent from the Registry

Example:
HDR,RSAUDIT,RGST,CTCT,22/02/2002,15:55:33,4,All My Files For April
DET,ICP20010401111114.ack,01/04/2001
DET,NOT20010401000035.txt,01/04/2001

```
DET,LIS20010404161417.txt,04/04/2001
DET,ICPUpdateProfiles.ack,16/04/2001
```

Sub-process:	**PR-065 Request file handler status**
Process:	Produce reports
Participants:	Distributors, Traders, Meter Owners, Authority.
Code references:	
Dependencies:	
Criticality:	Non core

Description:

The Participant may request a report on all batch jobs currently queued or being processed by the Registry file processors.

Business requirements:

1. The registry must be able to provide all users with a list of the batch jobs currently queued or being processed

Data inputs:

A file containing a header may be submitted.

Request example:
HDR,RQFHSTATUS,RETA,RGST,23/03/2007,15:49:06,00000000,my user reference

Processing:

1. Interrogate the Registry job queue and report all batch jobs

Data outputs:

Each attribute on an output line is comma separated

A file containing the requested audit log.

Name	Format	Description
Object Identifier	Char	Unique job object identifier
File Name	Char 25	
File Status	Char 4	000 – waiting file handler 010 – processing 011 – recovering 999 – in error

Participant Identifier	Char 4	
Date processing started	DD MMM YY	
File size	Char 1	S – Small L - large
Records processed	Numeric	
File processor identifier	Char 4	LFP0 – Large File processor number 0 LFP1 – Large File processor number 1 LFP2 – Large File processor number 2 DFP0 – Dual file processor number 1 DFP1 – Dual File processor number 1 DFP2 – Dual File processor number 2 SFP0 – Small file processor number 1 SFP1 – Small File processor number 1 SFP2 – Small File processor number 2 NFP0 – Notify File processor number

Example:
HDR,RSFHSTATUS,RGST,RETA,30/05/2011,10:42:50,00000004,Jason

2245.769,$_LIS20070530103209.txt,000,RETA,30 May 2007 10:34:52,S,4750,DFP2
2245.771,$_LIS20070530103242.txt,010,RETA,30 May 2007 10:35:56,S,4750,SFP0
2245.773,$_LIS20070530103305.txt,010,RETB,30 May 2007 10:36:14,S,4750,DFP1
2245.783,$_FHSFHS20070323154906.txt,010,NETA,30 May 2007 10:42:37,S,0,DFP2

Sub-process:	**PR-070 Produce monthly statistics**
Process:	Produce reports
Participants:	Distributors, Traders, Meter Owners, Authority
Code references:	Clause 11.23 of the Code.
Dependencies:	

Description:

The registry must publish monthly statistics about the number of ICPs notified to the registry and contained on its register, the number of switch notifications received by the registry in accordance with clause 2 of Schedule 11.3, and any other information agreed between the registry and the Authority, by 1600 hours on the 6th business day of each month for the previous consumption period.

Business Requirements:

Part 1: ICP Totals [file 1]

Report the following summary totals at the end of each month. These represent accumulated total values for the Registry at the end of the report month.

End of the Month. A snapshot of the Registry demographics as at the end of the month. This includes:

1. number of ICP's on the registry.

Number of ICP's split by Status, i.e. total number *new*, *ready*, *active*, *inactive, distributor, decommissioned*

2. Number of ICP's with NEW Status
3. Number of ICP's with READY Status
4. Number of ICP's with ACTIVE Status
5. Number of ICP's with INACTIVE Status
6. Number of ICP's with DISTRIBUTOR Status
7. Number of ICP's with DECOMISSIONED Status
8. number of switches completed during the month. This includes all non withdrawn switches where the switch Actual Transfer Date is in the report month.
9. number of unique NSP's where the NSP is used by an ICP

In addition, the following Activity Statistics are collected for reporting purposes. These represent activity values for the Registry during the report month.

1. customers switched. Includes all switches that are completed (TN or TT received) during the month regardless of the Actual Transfer Date of the switch. Does not include withdrawn

switches

2. number of ICP's created in the month (new ICP's)
3. number of ICP's decommissioned during the month.
4. number of ICP's made inactive during the month.
5. number of ICP enquiries during the month. This includes:
    - on-line
        - address search, increment for each search request
        - inquiry on an individual ICP
    - FTP, number of response lines for each of:
        - PR-010, PR-020, PR-030, PR-040, PR-060, NP-020, NP-030, NP-040, RS-010, RS-020, RS-030, RS-040, RW-010, RW-020
6. number of switches in progress as at the end of the month.
7. number of switch withdrawal requests made in the month.
8. number of switch withdrawals where the switch itself had been completed
9. number of switch withdrawals where the switch itself was in progress.
10. number of switch withdrawals rejected where the switch itself was completed.
11. number of switch withdrawals rejected where the switch itself was in progress.

Number of events inserted during the month by event type and how many of these were historical inserts. An historical event is an event that does not affect an ICP's current state.

1. Inserted Address
2. Inserted Address Historical
3. Inserted Metering
4. Inserted Metering Historical
5. Inserted Network
6. Inserted Network Historical
7. Inserted Pricing
8. Inserted Pricing Historical
9. Inserted Reconciliation
10. Inserted Reconciliation Historical
11. Inserted Status
12. Inserted Status Historical

Number of event reversals/replacements made in the month by event type and how many of these were historical.

1. Reversed / Replaced Address
2. Reversed / Replaced Address Historical
3. Reversed / Replaced Metering
4. Reversed / Replaced Metering Historical
5. Reversed / Replaced Network
6. Reversed / Replaced Network Historical
7. Reversed / Replaced Pricing
8. Reversed / Replaced Pricing Historical
9. Reversed / Replaced Reconciliation
10. Reversed / Replaced Reconciliation Historical
11. Reversed / Replaced Status
12. Reversed / Replaced Status Historical
13. ICP's changed - consolidated total of non historical updates (reversals/replacements/inserts)
14. ICP histories changed - consolidated total of historical updates (reversals/replacements/inserts)

Part 2: ICP's By Role

The Authority is required to receive four sets of statistics detailing the number of ICP's *active*, *inactive* and *decommissioned* at the end of the month and the *number that have been switched during the month by:

1. Trader Participant Identifier; [file 2]
2. Distributor Participant identifier; [file 3]
3. NSP identifier; and [file 4]
4. Trader participant Identifier and NSP. [file 5]

*Number that have been switched includes non withdrawn switches where the switch Actual Transfer Date is greater than the start of the month. Switches with an Actual Transfer Date prior to the start of the month are not included

Data Inputs:

Processing:

Data Outputs:

Monthly statistics to be available, online and downloadable, to all participants. Report contents are the same for all participants, i.e. irrespective of ownership.

Authority reports to be automatically delivered at the end of each month in CSV format to
a) the registry FTP server's fromreg folder for the Authority, and
b) the Authority's Secure FTP server, for subsequent data warehouse upload.

The Authority reports will include files 1 through 5

The Administrator has the facility to manually resend files to the Authority SFTP server using Win_SCP.

Files contain the standard Registry file header. Header fields are as follows:

> Header record type,File type,Sender,Recipient,File creation date,File creation time (24 hour format),Number of detail recs,User Reference
> e.g. HDR,RMSTATR1,RGST,BOPE,27/12/2010,11:10:30,24,

The second heading line contains column headings, which are the field descriptions below.

Statistics Files 1: ICP Totals

File Name	File type
MonthlyStatisticsYYYYMM.csv	RMSTATR1

Description	Type
Record type	DET
Month	Char
Parameter description	Numeric
Value	Numeric

Statistics Files 2: ICP Statistics by Trader

File Name	File type
RetailerStatsYYYYMMnnnn.csv	RMSTATR2

Description	Type
Record type	DET
Trader Name	Char 30
Trader Participant Identifier	Char 4
ICP's Active	Numeric
ICP's Inactive	Numeric
ICP's Decommissioned	Numeric
ICP's Switched	Numeric

Statistics Files 3: ICP Statistics by Distributor

File Name	File type
DistributorTotalsYYYYMMnnnn.csv	RMSTATR3

Description	Type
Record type	DET
Distributor Name	Char 30
Distributor Participant Identifier	Char 4
ICP's Active	Numeric
ICP's Inactive	Numeric
ICP's Decommissioned	Numeric
ICP's Switched	Numeric

Statistics Files 4: ICP Statistics by NSP Identifier

File Name	File type
NSPTotalsYYYYMMnnnn.csv	RMSTATR4

Description	Type
Record type	DET
NSP	Char
ICP's Active	Numeric
ICP's Inactive	Numeric
ICP's Decommissioned	Numeric
ICP's Switched	Numeric

Statistics Files 5: ICP Statistics by NSP Identifier

File Name	File type
ICPByRetailerNSPYYYYMMnnnn.csv	RMSTATR5

Description	Type
Record type	DET
Retailer Name	Char 30
Trader Participant Identifier	Char 4
NSP	Char
ICP's Active	Numeric
ICP's Inactive	Numeric
ICP's Decommissioned	Numeric
ICP's Switched	Numeric

Sub-process:	**PR-080 Produce monthly HHR ICP list**
Process:	Produce reports
Participants:	Reconciliation manager
Code references:	Clause 11.26(d) of the Code.
Dependencies:	

Description:

This report is produced automatically for the Reconciliation Manager. It lists, by NSP and Trader, all those ICPs with half-hour metering that were active during the relevant consumption period and the periods for which they were active.

Business requirements:

1. The registry must deliver the information to the Reconciliation Manager for the prior consumption period by 1600 hours on the 4th business day of the current reconciliation period.
2. The registry must deliver revised information to the Reconciliation Manager, in respect of the immediately preceding 14 consumption periods, by 1600 hours on the 13th business day of the current reconciliation period.
3. Only ICPs with a metering type of half-hour must be included in the list.
4. Only ICPs that were active at some time during the relevant consumption period must be included in the list.
5. The report must be able to be resent for a particular month via an ftp request.

Data inputs:

Processing:

1. For each consumption period, for each Trader, identify the ICPs with half-hour metering that were active during some part of the month and derive their start and end dates. Note that if there were periods for which the ICP was inactive during the month there would be more than one entry in this report.
2. Sort by NSP, Trader, ICP Identifier and start date.

Data outputs:		
Each attribute on an output line is comma separated **HHR ICP list output information**		
Name	**Format**	**Comment**
Record Type	Char 3	“DET”
Month	MM/YYYY	Consumption period.
NSP	Char 11	NSP identifier
Trader Participant Identifier	Char 4	
ICP Identifier	Char 15	
Start date	DD/MM/YYYY	First day in month that the ICP was the responsibility of the Trader and was active.
End date	DD/MM/YYYY	Last day in month that the ICP was the responsibility of the Trader and was active.
ICP days	Numeric	Number of days between start date and end date.

Sub-process:	**PR-090 Produce active NSPs report**
Process:	Produce reports
Participants:	Clearing manager, system operator, Reconciliation Manager
Code references:	Clause 11.25 of the Code.
Dependencies:	

Description:

This report is produced at the request of the clearing manager, system operator, or Reconciliation Manager, each of whom may request that the report be provided automatically (ie a frequency over an indefinite period). The report lists all active NSPs connected to a local network, all active NSPs connected to a network for which a Trader has been responsible, and the dates on which each Trader's responsibility under the Code at an NSP commenced and ceased, during the previous 14 months.

Business requirements:

1. The report must be produced at the request of the clearing manager, system operator, or Reconciliation Manager. It has been requested that the report be provided by 1600 hours on the first business day of every month.
2. The report must list only those NSPs that are active.

Data inputs:

Processing:

1. Extract the Trader, NSPs and periods (start and end dates) of ICPs that were active during the previous 14 months.
2. Sort and summarise by Trader, NSP reporting the earliest start date and latest end date of the active ICPs. Note that it is possible for all ICPs of a Trader to be inactive for a duration then become active again. The system will therefore show at least two entries in the report for this type of situation.

Data outputs:		
Each attribute on an output line is comma separated. **Active NSPs report output information**		
Name	**Format**	**Comment**
Record Type	Char 3	“DET”
Trader Participant Identifier	Char 4	All Traders.
NSP	Char 11	Each NSP Identifier at which Trader was responsible for an ICP in the active state.
Start date of active period	DD/MM/YYYY	Start date of earliest ICP.
End date of active period	DD/MM/YYYY	End date of latest ICP.

Sub-process:	**PR-100 Produce loss factors report**
Process:	Produce reports
Participants:	Reconciliation manager, participants
Code references:	Clause 11.26(b) of the Code.
Dependencies:	

Description:

This report is produced twice a month automatically for the Reconciliation Manager. It details the loss factor values for each Distributor Loss Category Code recorded by the registry in respect of all trading periods during the previous 14 months.

Business requirements:

1. The registry must deliver the information to the Reconciliation Manager for the prior consumption period by 1600 hours on the 4th business day of the current reconciliation period.
2. The registry must deliver revised information to the Reconciliation Manager, in respect of the immediately preceding 14 consumption periods, by 1600 hours on the 13th business day of the current reconciliation period.
3. The report must show details of all Distributor Loss Category Codes recorded by the registry in respect of all trading periods during the previous 14 month – i.e. that are still current or were current during any of those consumption periods.
4. The report must be able to be requested via ftp by any participant.

Data inputs:

Each parameter line is preceded by a line type identifier consisting of “PRAMnn” where nn refers to the parameter number.
Leaving an optional parameter blank it is assumed that ALL values are required, i.e. there is no filter.
Multiple space separated values may by input for search criteria.
Each attribute on an input line is comma separated.

Name	Type	Mandatory /Optional	Description/Example
Start Date	DD/MM/YYYY	M	
End date	DD/MM/YYYY	M	
Participant Identifier	Char 4	M	
Current Codes	Char 1	O	Y to report current codes.
Historical Codes	Char 1	O	Y to report current codes.
Example HDR, RQMLOSSFS,RETA,RGST,23/03/2007,15:49:06,00000005,my user reference			

```
PRAM01,01/01/2009
PRAM02,25/11/2011
PRAM03,NETA
PRAM04,Y
PRAM05,N
```

Processing:

1. From the loss factor table on the registry, identify all Distributor Loss Category 's except those with an end date after 14 months before the current consumption period.
2. Sort by Network Participant Identifier, Distributor Loss Category Code, and start date.

Data outputs:

Each attribute on an output line is comma separated.
Loss factors report output information

Name	Format	Comment
Record Type	Char 3	"DET"
Distributor Participant Identifier	Char 4	Valid Participant Identifier for Distributor.
Distributor Loss Category Code	Char 15	
Consumption loss factor	Numeric 1.4	1.0024
Generation loss factor	Numeric 1.4	1.0024
Start date	DD/MM/YYYY	
End date	DD/MM/YYYY	Within preceding 14 months or blank.
Start trading period	Numeric 4	For example: 0000
End trading period	Numeric 4	For example: 2300
Date and time of last change	DD/MM/YYYY HH:MM:SS	Audit date/time of insert or update.

Sub-process:	**PR-110 Produce maintenance compliance report**
Process:	Produce reports
Participants:	Authority, Distributors, Traders, Reconciliation Manager
Code references:	Clause 11.27 of the Code.
Dependencies:	

Description:

This is an automatic report that is produced every month by 1600 hours on the 1st business day of each reconciliation period for the market administrator.

It can also be requested by Traders, Distributors, the Reconciliation Manager and the Authority. Traders, the Reconciliation Manager and Distributors can only obtain information pertaining to themselves. The market administrator can select information for individual or all participants.

Both a summary and a detailed reports are automatically produced every month for the market administrator. These reports summarise and detail the number of events that have not been notified to the registry within the timeframes specified in Part 11 of the Code. Those events might relate to ICPs, events, NSPs, Distributor Loss and Price Categories.

Business requirements:

1. The report must be produced monthly by 1600 hours on the 1st business day of each reconciliation period for the market administrator or on request by traders and distributors.
2. The report must show the events that have not been notified to the registry as required by the Code of which the registry is aware. Those events include the following,:
   - Clause 7 of schedule 11.1. The provision of information by Distributors about:

     Network events (including the creation of an ICP Identifier for an ICP);

     Address event information; or

     Pricing event information; or

     Status event information

     Must be input no later than 3 business days after the change takes effect.

     * However, NSP identifier changes must be input no later than 8 business days after the change takes effect.

     Distributor Loss Category Codes. Changes to loss factors must be entered on the table in the registry at least 2 calendar months before the loss factor takes effect (clause 22 of Schedule 11.1);

     Distributor Price Category Codes. Changes to Distributor Price Category Codes must be entered on the table in the registry at least 2 calendar months before the code

Business requirements:
takes effect (clause 23 of Schedule 11.1); – Clause 9 of Schedule 11.1. The provision of information by Traders about Reconciliation events, Metering events and Status events must be provided no later than 5 business days after the change takes effect.. – Clauses 28 and 30 of Schedule 11.1. Reconciliation manager maintenance of NSP information. A new NSP identifier must be allocated at least 1 business day of the Reconciliation Manager receiving notice of the creation of the NSP. The creation or decommissioning of an NSP must be notified to the registry within 1 business day after the Reconciliation Manager receives notice of the creation or decommissioning. 3. All inserts, updates and reversals are to be reported. 4. Information provided to the registry after 1930 hours is deemed to be provided at 0730 the next day (clause 11.20(2) of the Code).

Business requirements:

Data inputs:

Each parameter line is preceded by a line type identifier consisting of “PRAMnn”
where nn refers to the parameter number.

Leaving an optional parameter blank it is assumed that ALL values are required, i.e. there is no filter.
Multiple space separated values may by input for search criteria.
Each attribute on an input line is comma separated

Name	Type	Mandatory/ Optional	Description/Example
Month and year of breaches	MMYYYY	M	
Breach Type	Char 32	M	List event types to be reported, one or more as below space separated: • NET – Distributor maintenance (including ICP creation) • NSP – ICP NSP change • PRI – Distributor pricing • ADD – Distributor Address • REC – Trader Reconciliation change • MTR –Metering Asset change • STAT – Retailer or Distributor Status change • LFT – Loss factor table • PCT – Price Category Table • NSPT – NSP table
Detail or Summary	Char 1	M	S or D
Participant	Char 4	M	Defaults to report requester. Authority may request for any participant

<u>Example request:</u>
HDR,RQMMAINTCP,CTCT,RGST,27/12/2001,11:13:12,2,list data
PRAM01,032010
PRAM02,NET ADD
PRAM03,S
PRAM04,RETA

Business requirements:
Processing:
1. Extract all relevant information (eg event maintenance, Distributor Loss Category maintenance, Distributor Pricing Category maintenance and NSP mapping table information) entered on the registry during the previous month. 2. Detail report is sorted by participant, maintenance type, input date sequence. 3. Summary report is sorted by participant and maintenance type.

Data outputs:		
Each attribute on an output line is comma separated. **Maintenance compliance report output information – detail**		
Name	**Format**	**Comment**
Record Type	Char 3	"DET"
Participant Identifier	Char 4	
Maintenance type	Char 3	<For event maintenance the event type description>, loss factor, price category code, NSP mapping table.
Input date	DD/MM/YYYY	
Effective date	DD/MM/YYYY	Event Date or start date or end date.
ICP Identifier	Char 15	Only for event maintenance.
The following depends on the maintenance type value:		
Name		**Comment**
For Network event maintenance: (If <u>only</u> NSP Identifier is changed then NSP or else NET. If NSP and NET then 2 rows generated.)		
Network Participant Identifier		Valid Participant Identifier for Distributor.
POC		
Reconciliation Type		
Dedicated NSP		
Installation Type		
Proposed Trader Participant Identifier		
Unmetered Load Details – Distributor		
Shared ICP List		Space separated ICP numbers
Network User Reference		
For network Pricing event maintenance: (PRI)		
Distributor Price Category Code		

Distributor Loss Category Code	
Chargeable Capacity	
Distributor Installation Details	
Network pricing User Reference	
For Address event maintenance: (ADD)	
Physical Address Unit	
Physical Address Number/ RAPID number	
Physical Address Region	
Physical Address Street	
Physical Address Suburb	
Physical Address Town	
Physical Address Post Code	
Address Property Name	
Address User Reference	
For loss factor table maintenance: (LFT)	
Network Participant Identifier	Valid Participant Identifier for Distributor.
Distributor Loss Category Code	
Name	**Comment**
Loss factor consumption	
Loss factor generation	
Start date	
End date	
Start period	
End period	
For pricing category table maintenance: (PCT)	
Network Participant Identifier	Valid Participant Identifier for Distributor.
Distributor Price Category Code	
Effective start date	
Effective end date	
Price category description	
For NSP mapping table maintenance: (NSPT)	
Owner	
RegistryPOC	

Registry network	
Registry NSP description	
Parent POC	
Parent network	
Balancing area	
Network type	
Network connection status	
Start date	
Start trading period	
End date	
End trading period	
ICP# of EN NSP	
For Reconciliation event maintenance: (REC)	
Trader	
Profile	
Reconciliation User Reference	
For Metering event maintenance: (MTR)	
Primary Metering Contact Participant Identifier	
Name	**Comment**
Metering Category	
Meter Type HHR	
Meter Type NHH	
Meter Type UNM	
Meter Type PP	
Advanced Metering Infrastructure	
Unmetered Load Details – Trader	
Daily Unmetered kWh	
Meter Register Count	
Meter Multiplier Flag	
Metering User Reference	
For Status event maintenance: (STAT) (Distributor and Trader)	
ICP Status	
ICP Status Reason code	

Status User Reference	

Maintenance compliance report output information – summary		
Field	**Format**	**Comment**
Record Type	Char 3	“DET”
Month	MM/YYYY	03/2010
Participant Identifier	Char 4	
Maintenance type	Char 3	<For event maintenance the event type description>, loss factor, price category, NSP mapping table.
Number of non-compliant events	Numeric 6	999999

Sub-process:	**PR-120 Produce NSP mapping table report**
Process:	Produce reports
Participants:	Reconciliation manager, participants
Code references:	Clause 11.26(c) of the Code.
Dependencies:	

Description:

This report is produced automatically for the Reconciliation Manager but is produced for all participants 'on demand'. It details the entries in the NSP mapping table that were applicable during previous consumption periods – ie the balancing area to which each NSP belongs recorded by the registry in respect of all trading periods.

Business requirements:

1. The registry must deliver the information to the Reconciliation Manager for the prior consumption period by 1600 hours on the 4th business day of the current reconciliation period.
2. The registry must deliver revised information to the Reconciliation Manager, in respect of the immediately preceding 14 consumption periods, by 1600 hours on the 13th business day of the current reconciliation period.
3. The registry must allow all registry participants to view the NSP mapping table online and to download it.
4. The information must be able to be requested via ftp by any participant.
5. Entries in the report must have the following information:
   - identifier – Char 4 (Distributor Participant Identifier);
   - registry POC – Char 7;
   - registry Network Participant Identifier – Char 4;
   - registry NSP description – Char 32;
   - parent POC – Char 7;
   - parent Network Participant Identifier – Char 4;
   - balancing area – Char 12;
   - network type – Char 1 (G = grid connected, E = embedded or I = interconnection point);
   - network connection status – Char 1 (active = Y or inactive = N);
   - start date – date (DD/MM/YYYY);
   - start trading period – Char 2;
   - end date – date (DD/MM/YYYY or blank);
   - end trading period – Char 2;

Business requirements:
– ICP Identifier of SB ICP – Char 15; – audit input date/time; – input by (user name); – audit deletion date/time; and – deleted by (user name).

Data inputs:

Processing:
1. From the NSP mapping table, select all entries except those with an end date prior to 14 months previous. 2. Sort by registry POC, registry Network Participant Identifier, start date, and start trading period.

Data outputs:

Each attribute on an output line is comma separated.
NSP mapping table report output information

Name	Format	Comment
Identifier	Char 4	Distributor Participant identifier
Registry POC		
Registry Network Participant Identifier		
Registry NSP description		
Parent POC		
Parent network		
Balancing area		
Network type		
Network connection status		
Start date	DD/MM/YYYY	
Start trading period	Numeric	

End date	DD/MM/YYYY	
End trading period	Numeric	
ICP Identifier of EN NSP	Char 15	
Audit input date/time	DD/MM/YYYY HH:MM:SS	
Input by (user name)	Char 10	
Audit deletion date/time	DD/MM/YYYY HH:MM:SS	
Deleted by (user name)	Char 10	

Sub-process:	**PR-130 Produce monthly activity and status summary report**
Process:	Produce reports
Participants:	Authority
Code references:	
Dependencies:	

Description:

This report is produced automatically for the Authority and provides statistics for each of the previous 3 months. It is a combination of monthly activity and status as at the end of each month.

Business requirements:

1. The report should be delivered to the Authority by 1600 hours on the 6th business day of each month covering the previous 3 months.

Data inputs:

Processing:

Data outputs:

Authority reports to be automatically delivered at the end of each month in CSV format to:

a) the registry FTP server's fromreg folder for the Electricity Authority, and

b) the Authority's secure FTP server, for subsequent data warehouse upload.

The Administrator has the facility to manually resend files to the Electricity Authority SFTP server using Win_SCP.

Each attribute on an output line is comma separated.

Monthly activity and status summary report output information

Name	Format	Comment
Month	MMYYYY	
POC	Char 7	
Network Participant Identifier	Char 4	Valid Participant Identifier for Distributor.
Reconciliation Type	Char 2	

Trader	Char 4	Trader Participant Identifier
Number of ICPs	Numeric	As at end of month
ICPs created	Numeric	In month
Status new (999)	Numeric	As at end of month
Status ready (000)	Numeric	As at end of month
Status active (001)	Numeric	As at end of month
Status inactive (002)	Numeric	As at end of month
Status decommissioned (003)	Numeric	As at end of month
Status distributor (888)	Numeric	As at end of month
Metering type HHR	Numeric	As at end of month
Metering type NHH	Numeric	As at end of month
Metering type UNM	Numeric	As at end of month
Metering type PP		As at end of month
Advanced Metering Infrastructure metering infrastructure	Numeric	As at end of month
Meter installation category 0 active	Numeric	As at end of month
Meter installation category 1 active	Numeric	As at end of month
Meter installation category 2 active	Numeric	As at end of month
Meter installation category 3 active	Numeric	As at end of month
Meter installation category 4 active	Numeric	As at end of month
Meter installation category 5 active	Numeric	As at end of month
Meter installation category 6 active	Numeric	As at end of month
Meter installation category 0 inactive	Numeric	As at end of month
Meter installation category 1 inactive	Numeric	As at end of month

Meter installation category 2 inactive	Numeric	As at end of month
Meter installation category 3 inactive	Numeric	As at end of month
Meter installation category 4 inactive	Numeric	As at end of month
Meter installation category 5 inactive	Numeric	As at end of month
Meter installation category 6 inactive	Numeric	As at end of month
Meter installation category 0 decommissioned	Numeric	As at end of month
Meter installation category 1 decommissioned	Numeric	As at end of month
Meter installation category 2 decommissioned	Numeric	As at end of month
Meter installation category 3 decommissioned	Numeric	As at end of month
Meter installation category 4 decommissioned	Numeric	As at end of month
Meter installation category 5 decommissioned	Numeric	As at end of month
Meter installation category 6 decommissioned	Numeric	As at end of month
ICP enquiries	Numeric	In month
ICPs changed	Numeric	In month
Name	Numeric	**Comment**
TN switches	Numeric	In month
Switch withdrawals	Numeric	In month
TT switches	Numeric	In month
Price category changes	Numeric	In month
Loss category changes	Numeric	In month
No meter setting	Numeric	ICPs with all metering types = N as at end of month

Sub-process:	**PR-140 Produce monthly switch completion report**
Process:	Produce reports
Participants:	Authority
Code references:	
Dependencies:	

Description:
This report is produced automatically for the Authority and provides switch completion statistics for each of the previous 3 months.

Business requirements:

1. The report must be delivered to the Authority by 1600 hours on the 3rd business day of each month covering the previous 3 months
2. The report counts the number of business days taken between NT arrival and the TN/TT. These numbers are expressed as average business days to two decimal points per calendar month by participant and meter type (HH and NHH).
3. The switch counts appear against the Trader who has responsibility for completing the switch:
   - NHH switch will appear against the losing Trader who has responsibility for supplying the TN
   - HH switch will appear against the gaining Trader who has responsibility for supplying the TT.
4. The count refers to the calendar month in which the NT was initiated; for example, an NT initiated in January that completes in February appears in January's figures.
5. For the purposes of the business days calculation, if notification of a switch event arrives on a public holiday it is assumed to have arrived the next business day.
6. Number of days will be based on date of receipt of the switch event, ie a switch event notification received after 19:30 will be deemed to have arrived today not tomorrow.
7. The report includes maximum and minimum business days recorded to complete a switch per participant per month, the maximum and minimum are across both HH and NHH switches.
8. The total NHH switches performed by a participant will be printed and also expressed as a percentage of the total NHH switches performed in the month to 2 decimal points. HH switches will be accumulated and expressed in the same manner.
9. A weighted average business days until completion will be calculated separately for each month against NHH, HH and across all switches. The weighted average figures will be detailed in a separate line at the end of each month.
10. The type S and SM non half hour switches will be reported separately and in addition to the aggregated NHH figures. Type S and SM switches will each include figures for minimum, maximum and average business days. Type S and SM switches will each be reported with a

weighted average at the end of each month.

11. Any switch that has been withdrawn is excluded from the counts.
12. The report data will be comma separated.

The Authority reports to be automatically delivered at the end of each month in CSV format to:

a) the registry FTP server's fromreg folder for the Authority, and

b) the Authority's secure FTP server, for subsequent data warehouse upload.

Data inputs:

Processing:

Data outputs:

Each attribute on an output line is comma separated.
Monthly activity and status summary report output information

Name	Format	Comment
Month	MMM-99	e.g. Jan-08
Participant Identifier	Char 4	
S minimum	Numeric	Minimum days taken to complete a type S switch
SM minimum	Numeric	Maximum days taken to complete a type S switch
S maximum	Numeric	Minimum days taken to complete a type SM switch
SM maximum	Numeric	Maximum days taken to complete a type SM switch
Avg Bus Days S	Numeric 3.2	Average business days taken to complete a type S NHH switch
Avg Bus Days SM	Numeric 3.2	Average business days taken to complete a type SM NHH switch
Avg Bus Days NHH	Numeric 3.2	Average business days taken to complete a NHH switch
Avg Bus Days HH	Numeric 3.2	Average business days taken to complete a HH switch
Maximum	Numeric	Maximum days taken to complete a switch

Minimum	Numeric	Minimum days taken to complete a switch
NHH	Numeric	Number of NHH switches performed by the participant and percentage that represents of all NHH for all participants in the month
HH	Numeric	Number of HH switches performed by the participant and percentage that represents of all HH for all participants in the month
Total	Numeric	Number of switches (NHH and HH) performed by the participant and percentage that represents of all switches for all participants in the month
Weighted averages	Numeric 3.2	Weighted averages for each month for: • Type S switches • Type SM switches • NHH • HH • Total switches

Sub Process:	**PR-145 Produce daily switch report**
Process:	Produce reports
Participants:	Authority
Code references:	
Dependencies:	
Criticality	Non core

Description:
This report is produced automatically for the Authority and provides daily switch opened and completion statistics for the previous day.

Business requirements:
Refer to PR-140 Monthly Switch Completion report for a full description of business requirements and output format. PR-145 differs in the following manner: 1. The report must be delivered to the Authority by 0900hours each day covering the previous day. 2. A switch withdrawal (AW) is included in the count. 3. A switch that is started, completed and withdrawn on the same day is not included.

Data inputs:	
Processing:	
Data outputs:	
Daily activity and status summary report output information. The fields are as specified for PR-140 Monthly Switch Completion report, except those below.	
Name	**Comment**
Day (replaces Month)	Format dd/mm/yyyy
S opened	Number of S switches opened
SM opened	Number of SM switches opened
HH opened	Number of HH switches opened

Sub-process:	**PR-160 Automated Trade Notification**
Process:	Produce reports
Participants:	Reconciliation Manager, System Operator
Code references:	Clauses 11.25 and 11.26 of the Code
Dependencies:	

Description:

The registry will provide to the reconciliation manager a file containing a Traders start date of trading at an NSP and the end date of trading at an NSP. The data covers the preceding 14 months, summarised by Installation criteria.

Business requirements:

1. The Trade Notifications file must be delivered to the Reconciliation Manager by 9am each day.
2. The Reconciliation Manager and System Operator may also request the report on demand.
3. The report details the date that a Trader started trading on an NSP and the date a Trader ended trading on an NSP for each unique occurrence of Installation criteria:
   - NSP
   - Installation Type
   - Reconciliation Type
   - Profile
4. Only ICP's that have the Status *active* are considered to be trading.

Data inputs:

The report may be requested by the Reconciliation Manager or System Operator at any time either on-line or by FTP. A FTP request requires a header record in the following format:

Name	Type	Mandatory/ Optional	Description/Example
Header	Char 3	M	Must be "HDR"
Request name	Char 10	M	Must be "RQATRADE"
Sender	Char 4	M	Participant identifier for example NZRM
Recipient	Char 4	M	Must be "RGST"
Date	DD/MM/YYYY	M	Valid date
Time	HH:MM:SS	M	Valid time
Number of records	Numeric	M	Must be 0
User Reference	Char 32	O	Free format User Reference. This is carried through and placed on the resulting output

			file.
Example HDR,RQATRADE,NZRM,RGST,03/08/2010,14:27:05,0,AdHoc trade report request			

Processing:
1. Report all periods where a Trader traded on an NSP 2. Sort the output by NSP then Trader

Data outputs:

The output report will contain a standard header followed by the trading information.
Each attribute on an output line is comma separated.
The output file name will have the following format:

- RSMATRADE< yyyyMMddHHMMSS>.txt

Name	Format	Comment
Point of connection	Char 7	
Network	Char 4	Valid Participant Identifier for Distributor.
Reconciliation Type	Char 2	
Participant identifier	Char 4	
Profile code	Char 3	Profile that was active on the NSP
Installation Type	Char 1	L - Load G - Generation B - Both
Start date	DD/MM/YYYY	Date Trader started trading on the NSP
End date	DD/MM/YYYY	Date Trader end trading on the NSP. If the Trader is still trading then the end date is null

Output example:
HDR,RSMATRADE,RGST,NZRM,04/08/2010,00:05:00, 3984,REGISTRY

ABY0111,NETA,GN,RETA,PG1,L,01/05/2010,

ABY0111,NETA,GN,RETA,EG1,L,01/05/2010,

ABY0111,NETA,GN,RETA,HHR,L,01/05/2010,

ABY0111,NETA,GN,RETA,T08,L,01/05/2010,27/07/2010

ABY0111,NETA,GN,RETA,T08,L,14/08/2010,

Sub-process:	**PR-170 Produce Monthly report**
Process:	Produce reports
Participants:	Authority
Code references:	
Dependencies:	

Description:
This report is produced automatically for the Authority each month and provides a count of the number of ICP's a participant is responsible for in *Active* or *Ready* state.

Business requirements:
1. The report must be delivered to the Authority by 06:00 hours on the 1st day of each month. 2. An ICP is included where it is in a *Ready* or *Active* state. 3. Number of ICP's a distributor or Trader are responsible for are counted against that participant.

Data inputs:

Processing:
1. Read all ICP's. 2. Ignore ICP where Status is other than Ready or Active. 3. Accumulate counts against the current Distributor and Trader who are responsible for the ICP. 4. Write counts to output file. 5. Transfer the output file to the Authority by email.

Data outputs:

Each attribute on an output line is comma separated.

Authority report to be automatically delivered at the end of each month, report name:

- ICPsOwned<month name><year>.csv, for example ICPsOwnedFebruary2011.

Name	Comment
Industry Code and Name	Participant identifier and description
Active	Number of ICP's owned in Active state
Ready	Number of ICP's owned in Ready state
Trader	Whether Participant is a Trader

Network	Whether Participant is a Distributor

Sub-process:	**PR-180 Produce ICP Switching Trend Report**
Process:	Produce reports
Participants:	Authority
Code references:	
Dependencies:	

Description:

The report provides the following information:
1. ICPs that have switched Trader
2. ICP's whose Status changes from Ready to Active or Inactive
3. ICP's whose Status changes from Decommissioned to Inactive
4. ICP's whose Status changes from Inactive to Decommissioned
5. ICP's whose current Address has changed

This information is provided to the Authority by 1600 hours on the 6th business day of each month for the previous month.

Business requirements:

The report provides information to the Authority's data warehouse for analysis of switch trend information.

The terminology used in the following functional description has been selected to maintain consistency with common registry usage.

<u>Base Data extract</u>
Extract ICP data as at an input effective date. A Base extract will contain records of the following Action type (see Action field description below).

1. BASE; consists of
    - ICP's with Status Active or Inactive as at the input report start date

<u>Delta Data extract</u>
Extract net deltas for ICP's between an effective date range. The delta is identified as one of the following:

1. SWITCH; consists of
    - ICPs that have switched.
    - ICP's who have had a completed switch withdrawn.

2. START TRADING; consists of
    - ICPs that have moved from a non Trading state (New, Ready or Decommissioned) to a Trading state (Active or Inactive).

3. STOP TRADING; consists of
   - ICP's moved from Inactive to Decommissioned
   - ICP's moved from Inactive or Active to Ready (initial Trader assignment reversal)

4. ADDRESS; consists of
   - ICPs that have had an Address change to their current Address.

Notes

1. The Delta Data contains the net changes across the input date range. If there is no net change the ICP is not reported.
   For example these are not reported:
   a) an ICP that became ACTIVE then returned to READY during the period
   b) an ICP with a switch notification that was subsequently withdrawn during the period.

2. Where multiple deltas occur of the same action type over the same reporting period only the latest delta is reported, and is identified by the most recent event Effective Date.

3. The BASE report contains records with action type of BASE only, to provide an indication of the report type. This record is otherwise identical to action type ADDRESS.

Data inputs:

1. Base or Delta report
2. Report start date
3. Report end date (delta report only).

Processing:

Base Report

1. Read all ICP records at the report date that have an active or inactive Status.
2. Generate output statistic file with BASE action records
3. Transfer the output file to the Authority FTP fromreg folder
4. Transfer the output file to the Authority SFTP server

Delta Report

1. Read the event audit records that have been updated in the registry in the consumption month
2. Generate output statistic file
3. Transfer the output file to the Authority FTP fromreg folder
4. Transfer the output file to the Authority SFTP server

Data outputs:

Authority report to be automatically delivered at the end of each month in CSV format to
a) the registry FTP server's fromreg folder for the Authority, and
b) the Authority's secure FTP server, for subsequent data warehouse upload.

The Administrator has the facility to manually resend files to the Authority SFTP server using Win_SCP.

Files contain the standard registry file header. Header fields are as follows:

- Header record type,File type,Sender,Recipient,File creation date,File creation time (24 hour format),Number of detail recs,User Reference
  e.g. HDR,RSPR180STA,RGST,EMCO,15/02/2011,11:10:30,24,

Report sort order will be

- ICP Identifier
- Effective Date

Name	Format	Description
ICP Identifier	Char 15	ICP Identifier.
Effective Date	Date DD/MM/CCYY	The date the change became effective.
Creation Date	Date DD/MM/CCYY	The date the delta was updated to the Registry Null for Base Report
Action	Char 18	One of: • BASE • SWITCH • START TRADING • STOP TRADING • ADDRESS (Note the format for records with action of BASE and ADDRESS are identical)
Losing Trader	Char 4	Populated where Action is SWITCH, otherwise blank. This contains the Trader who has lost the ICP
Gaining Trader	Char 4	If Action is SWITCH • Trader who has gained the ICP If Action is BASE or START TRADING, • Trader who assigned an ICP to themselves or • Trader who owns the ICP after reversal of a decommission event. Otherwise blank

Withdrawal Reason	Char 2	Populated if action is SWITCH. The Switch Withdrawal Code
Status	Char 14	ICP Status as at the Effective Date, one of: • Inactive • Active • Decommissioned
Distributor	Char 4	Distributor at the Effective Date
NSP	Char 11	NSP identifier as at the Effective Date
Meter Category	Numeric	Meter Category as at Effective Date
Address Details		The Address details apply as at the Effective Date, Address details are populated if action is BASE, ADDRESS or START TRADING.
Physical Address Unit	Char 20	Physical Address Unit
Physical Address Number/Rapid Number	Char 25	Physical Address Number/Rapid Number
Physical Address Street	Char 30	Physical Address Street
Physical Address Suburb	Char 30	Physical Address Suburb
Physical Address Town	Char 30	Physical Address Town
Physical Address Region	Char 20	Physical Address Region
Physical Address Post Code	Numeric	Physical Address Post Code

Sub-process:	**PR-190 EIEP Statistics**
Process:	Produce Reports
Participants:	Authority
Rule references:	None
Dependencies:	EI-010, EI-020, EI-030
Criticality	Non-core

Description:
Monthly statistics representing the number and volumes of files sent and received by the EIEP transfer hub.

Business requirements:
4. The report is delivered to the Authority by 06:00 hours on the 1st day of each month 5. The Authority will receive a file detailing EIEP Transfer statistics by Participant, as described in Data Outputs. 6. The report will be automatically delivered at the end of each month in CSV format to a) the Registry FTP server's fromreg folder for the Authority, and b) the Authority's Secure FTP server, for subsequent data warehouse upload. 7. The Administrator has the facility to manually resend files to the Authority SFTP server using Win_SCP.

Data inputs:
None

Processing:
Accumulate statistics through examination of the EIEP transfer audits for the report month.

Data outputs:

Files contain the standard Registry file header. Header fields are as follows:

Header record type, File type, Sender, Recipient, File creation date, File creation time (24 hour format), Number of detail records, User reference

Description	Type	Value
Report Month	MMYYYY	
Participant Code	Char 4	
Total Files sent	Numeric	
Volume files sent	Numeric	Total volume in bytes
Total Files received	Numeric	
Volume files received	Numeric	Total volume in bytes
Total Files rejected	Numeric	

File example:
HDR,RMSTATEIEP,RGST,EMCO,01/08/2011,00:10:30,5,
072011,CTCT,266,36578923,199,887691,0
072011,GEOL,212,59886311,190,999499,4
072011,MERI,119,67779,61,1880,1

User parameters

Sub-process:	**MP-010 Set switching message receipt times**
Process:	Maintain user parameters
Participants:	The relevant Traders, Meter Owners and Distributors
Code references:	
Dependencies:	

Description:

A user with supervisor privileges should be able to choose the time switch messages are received and how they are grouped.

Note that Distributors and Meter Owners will always receive their TN and NC notifications overnight so do not need to set switching receipt times.

Business requirements:

1. Only a user with supervisor privileges will be able to perform this function.
2. Users must be able to choose to receive switching messages individually immediately when they are processed by the registry or in batches at specific times during the day.
3. Where users choose to receive switching messages at specific times, all messages of one type, eg NT or AN, will be sent by the registry in separate files.
4. Users must be able to further choose to separate switching messages into files based on sending Trader, ie NTs sent by RETA will be in a separate file as will NTs from RETB. The default is all Traders together in one file per message type.
5. Once set, the parameter settings will apply to all switching messages received by the participant company.

Processing:

Data inputs:

Delivery time(s).

Grouping selection.

Data outputs:
Confirmation of new settings on screen. Audit trail of changes.

Sub-process:	**MP-020 Set notify parameters**
Process:	Maintain user parameters
Participants:	Traders, Distributors, Meter Owners
Code references:	
Dependencies:	

Description:

A user with supervisor privileges will be able to select for which event types notifications are received by their participant company. Only those notifications not explicitly mentioned in the Code will be available for selection.

Business requirements:

1. Only a user with supervisor privileges must be able to perform this function.
2. Where a participant has a dual role, eg Trader and Meter Owner, it must be able to set the parameters separately for each role.
3. The registry must not send duplicate notifications for the same event at an ICP in respect of which a participant has dual roles.
4. Traders must always receive notification of Address, Status, network, metering and all Reconciliation events.
5. Distributors must always receive notification of Address, Status, network, Pricing events and of Reconciliation events generated at the completion of a switch.
6. Meter Owners must always receive notification of Reconciliation events generated at the completion of a switch.
7. Once set, the parameter settings must apply immediately to all the participant's notifications.

Processing:

Data inputs:

Event notification settings for each event type and role.

Data outputs:

Confirmation of new settings on screen.

Audit trail of changes.

3.5 Notifications

Sub-process:	**NP-010 Acknowledge event change**
Process:	Notify participants
Participants:	Traders, Distributors
Code references:	Clause 11.21 of the Code.
Dependencies:	DC-010, DC-020, DM-010, DM-020, DM-030, DM-040, RA-010, RM-010, RM-020, RM-030, RM-040, RS-010, RS-020, RS-030, RS-040, RW-010, RW-020, RC-010, RC-020

Description:

The Code requires that when information such as a change to an ICP attribute and notification of a switch transaction is sent to the registry, the registry confirms receipt of the information to the participant within four hours of the information being provided to the registry.

For transactions entered online, although an online message of a successful update is sufficient as a confirmation, current automation of back-office systems by clients requires that all acknowledgements must also be provided in a file.

For batch updates sent in a file, acknowledgements of each update must be provided in a file. If the system rejects a change received in the file, it must indicate the reason as part of the acknowledgement (error processing).

Users must be able to see online whether their changes, whether submitted online or via file, have been confirmed (acknowledged). The details shown must include:

date and time stamp;

participant (sent to); and

file name.

Business requirements:

1. The participant who provided the information must be sent an acknowledgement within four hours of the information being provided by the participant.

Processing:
System 1. Formats and sends acknowledgement to submitter.

Data inputs:
As a result of the following sub-processes: DC-010, DC-020, DM-010, DM-020, DM-030, DM-040, RA-010, RM-010, RM-020, RM-030, RM-040, RS-010, RS-020, RS-030, RS-040, RW-010, RW-020, RC-010, RC-020

Data outputs:
Acknowledgements. Each attribute on an output line is comma separated. Acknowledgement information to include:

Name	Format	Mandatory/ optional	Comments
Record Type	Char 3	M	“DET”
Date processed	DD/MM/YYYY	M	
Time processed	HH:MM:SS	M	
Registry audit reference	Char 15	O	Audit number of the successful update.
Request mode	Char 1	M	W (web browser) F (file upload)
ICP Identifier	Char 15	M	
Event Date	DD/MM/CCYY	M	
Action requested	Char 3	M	REC—Reconciliation event MET—Metering event STA—Status event PRI—Pricing event NET—network (NSP) event ADD—Address event

Name	Format	Mandatory/ optional	Comments
			NT—NT switch event AN—AN switch event TN—TN switch event TT—TT switch event NW—NW switch event AW—AW switch event NC—NC switch event AC—AC switch event DCH—initial creation date
Result	Num 3	M	000 if update successful, otherwise an error code.
Submitted by	Char 10	O	User ID.
User supplied reference	Char 32	O	Free text field carried over from input file.

Sub-process:	**NP-020 Send switch messages**
Process:	Notify participants
Participants:	Traders
Code references:	Clauses 19, 20 and 22 of Schedule 11.3 of the Code.
Dependencies:	RS-010, RS-020, RS-030, RS-040, RW-010, RW-020, RC-010, RC-020

Description:

Traders are required to send all their switch messages to the registry, not directly to the other participant. It is the responsibility of the registry to pass them on to the other participant.

Business requirements:

In providing the switch transfer mechanism, the registry must:

1. route only valid switch messages and only to the appropriate recipient;
2. take into account the recipient's switch file delivery preferences (switching parameters);
3. deliver the switching messages via file to the recipient in the same format as they are input;
4. provide an authoritative audit trail of all switch data transfer activity, ie who, when, filename, from which participant, to which participant, etc; and
5. retain the actual switch files for a minimum of 3 months.

Processing:

System

1. Determines who is the intended recipient from the information contained in the switch message and the participants to the switch (see sequence exchange table below).
2. Groups the messages and delivers them at the time and batching method indicated in the recipient's switching parameters.

Data inputs:

Valid switch messages – NT, AN, TT, TN, NW, AW, NC, AC.

Data outputs:

Switch file.

The basic message exchange sequences between Traders are:

Sequence	Message	Sender	Receiver
1. Half-hour switch	NT	Gaining Trader	Losing Trader
	AN	Losing Trader	Gaining Trader
	TT	Gaining Trader	Losing Trader
2. Non-half-hour and unmetered switch	NT	Gaining Trader	Losing Trader
	AN (optional)	Losing Trader	Gaining Trader
	TN	Losing Trader	Gaining Trader
3. Non-half-hour and unmetered switch	NT	Gaining Trader	Losing Trader
	TN	Losing Trader	Gaining Trader
4. Withdrawal of switch	NW	Either gaining or losing Trader	Other Trader
	AW	Receiver of previous NW	Sender of the previous NW
5. Change switch read	NC	Either gaining or losing Trader	Other Trader
	AC	Receiver of previous NC	Sender of the previous NC

Sub-process:	**NP-030 Notify of event change**
Process:	Notify participants
Participants:	Traders, Distributors, Meter Owners
Code references:	Clause 11.29 of the Code
Dependencies:	DC-010, DC-020, DM-010, DM-020, DM-030, DM-040, RA-010, RM-010, RM-020, RM-030, RM-040, RS-030, RS-040, RW-020, NP-020

Description:

This function is concerned with the delivery of notifications to affected participants of changes to registry information and taking into account the participant's preferences indicated in their notification parameters (see NP-020).

Business requirements:

1. The Code requires that if a change to information on the registry is notified to the registry by a Distributor or Trader, the registry must send a notification of the change to all affected participants on the day the registry receives the information (clause 11.29). The affected participants are defined to be responsible for the ICP on the Event Date of the change. The responsible parties are the Distributor on whose network the ICP is located, the Trader trading at the ICP and Meter Owner whose equipment is connected to the ICP.
2. Since one or more of the responsible parties may be the subject of a change to an ICP, both current (old) and/or new responsible parties may need to be notified of the change. This means that the evaluation of which participants should receive notifications can be quite complex and results can differ depending on the order in which the processing is done.

   It should be noted that at present Traders are responsible for updating metering information, not the Meter Owners. However, although Meter Owners are not required to update information under the Code, they do have notification rights.

   All Meter Owners need to be informed:

   – when their period of ownership commences and ceases; and
   – when information about an ICP changes during their period of ownership.
3. Participants must be able to see online whether notifications have been sent. The details shown must include:
   – date and time stamp;
   – participant (sent to); and
   – filename.

Business requirements:
Filtering-up of historical changes 1. An historical change is one that occurs before any current event of an ICP. When an historical change occurs, notifications must be generated for all participants that *were responsible for* the ICP from the Event Date of the new event up to BUT NOT INCLUDING the Event Date of the next event of the same event type or up to today's date, whichever is the earliest. 2. For example, if a Metering event is inserted with an Event Date of 01/03/2004, before a later Metering event on 01/05/2004, then all Traders, Distributors and Meter Owners who were responsible for the ICP during the period 01/03/2004 to 30/4/2004 must be notified of the change. The same filter-up logic must be applied to all insertions, updates and deletions and, in the case of updates, the replaced (old) event must be fully processed before the new event is inserted.
Processing:
System 1. Determines who the participants are that are affected by the change. 2. Checks whether the participant wishes to receive notifications for the event type of the change and type of maintenance, as indicated by its notification parameters (see NP-020). 3. Formats the notification and delivers it to each affected participant.

Data inputs:
Valid new, reversed or replaced events.

Data outputs:
Each attribute on an output line is comma separated. Notification file.

The notification should contain the following information:

Name	Format	Mandatory/ optional	Comments
Record Type	Char 3	M	"DET"
Event Date	DD/MM/YYYY	M	
ICP Identifier	Char 15	M	

Name	Format	Mandatory/ optional	Comments
Notification type	Char 1	M	R (event reversal), A (change of data).
Switch status	Char 1	O	S if ICP is currently being switched, or else blank.
Network audit number	Char 15	O	Audit number associated with change to network data.
Network Participant Identifier	Char 4	O	Valid Participant Identifier for Distributor.
POC	Char 7	O	
Reconciliation Type	Char 2	O	
Dedicated NSP	Char 1	O	
Installation Type	Char 1	O	
Proposed Trader	Char 4	O	
Unmetered Load Details - Distributor	Char 50	O	
Shared ICP List	List	O	
Network User Reference	Char 32	O	
Network pricing audit number	Char 15	O	Audit number associated with change to network pricing data.
Distributor Price Category Code	Char 50	O	
Distributor Loss Category Code	Char 7	O	
Chargeable Capacity	Numeric 7.2	O	
Distributor Installation Details	Char 30	O	
Network pricing User Reference	Char 32	O	
Address audit number	Char 15	O	Audit number associated with change to Address data.
Physical Address Unit	Char 20	O	
Physical Address Number/ RAPID number	Char 25	O	
Physical Address Street	Char 30	O	

Name	Format	Mandatory/ optional	Comments
Physical Address Suburb	Char 30	O	
Physical Address Town	Char 30	O	
Physical Address Post Code	Numeric 4	O	
Physical Address Region	Char 20	O	
Address Property Name	Char 75	O	
Address User Reference	Char 32	O	
Trader audit number	Char 15	O	Audit number associated with change to Trader data.
Trader	Char 4	O	
Profile	Char 25	O	
Trader User Reference	Char 32	O	
Metering audit number	Char 15	O	Audit number associated with change to metering data.
Primary Metering Contact Participant Identifier	Char 4	O	
Metering Category	Numeric 1	O	
Meter Type HHR	Y/N	O	
Meter Type NHH	Y/N	O	
Meter Type UNM	Y/N	O	
Meter Type PP	Y/N	O	
Advanced Metering Infrastructure metering infrastructure	Y/N	O	
Unmetered Load Details – Trader	Char 50	O	
Daily Unmetered kWh	Char 6	O	
Meter Register Count	Numeric 3	O	
Meter Multiplier Flag	Char 1	O	
Metering User Reference	Char 32	O	
Status audit number	Char 15	O	Audit number associated with change to Status data.

Name	Format	Mandatory/ optional	Comments
ICP Status	Char 3	O	999—new, 888—distributor, 000—ready, 002—active, 001—inactive, 003—decommissioned.
ICP Status Reason	Numeric 2	M/O	01 to 06.
Status User Reference	Char 32	O	

<u>Example 1:</u>

Assume we have an ICP on the Registry with the following Pricing Details:

Event Date 1 April 2001 Price Code = 40W
Event Date 30 September 2001 Price Code = 60W.

The Distributor realises that the ICP should have been on Price code 45W for the period 1 April 2001 to 30 Sept 2001 at which time it changed to 60W and so updates the Registry by inserting a new network pricing event (via the "Change Distributor Details" screen or via Distributor Maintenance) with an event date of 1 April 2001. The following notification file would be generated:

DET,01/04/2001,0000123456UNAED,R,,,,,,,,,,,123456799,40W,L1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
DET,01/04/2001.0000123456UNAED,,,,,,,,,,,,123456800,45W,L1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

<u>Example 2:</u>

If the Distributor wanted to update the ICP so that the Price Code was 45W for the period 1April 2001 to current date then he would be required to do two things, reverse the Network Pricing event dated 30 September 2001 (via the "Change Distributor Details" screen or via Distributor Maintenance) and insert the Network Pricing Event dated 1 April 2001 as per above. Under this scenario three notification lines would be output to the relevant parties these would be as follows:

Line 1 for the reversal of the 30 Sept. event:
DET,30/09/2001,0000123456UNAED,R,,,,,,,,,,,123456797,60W,L1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Lines 2 and 3 for the insertion of the 1 April event:
DET,01/04/2001,0000123456UNAED,R,,,,,,,,,,,123456799,40W,L1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
DET,01/04/2001.0000123456UNAED,,,,,,,,,,,,123456800,45W,L1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

Sub-process:	**NP-040 Re-send switching messages**
Process:	Notify participants
Participants:	Traders, Distributors, Meter Owners
Code references:	
Dependencies:	NP-020

Description:

Participants will be able to request that the registry re-sends all the switch messages that were delivered to them during a period of time.

Note that Distributors and Meter Owners are only able to receive TN switch messages.

Business requirements:

1. The registry must be able to send participants their switching protocol messages again when requested.
2. Participants must be able to request that all messages be re-sent for a specific period.
3. Participants must be able to select that, only messages of a specific type, eg TT or AW, for a specific period be re-sent to them.
4. The registry must re-send all the requested messages immediately in a single file.

Processing:

Data inputs:

Start date.

End date.

Switching message type.

Example:
HDR,RQRSSWFLS,CTCT,RGST,27/12/2001,11:13:12,1,All notifications for April
DET,01/04/2007,30/04/2007

Data outputs:

File of requested switching messages.

Sub-process:	**NP-050 Re-send notifications**
Process:	Notify participants
Participants:	Distributors, Traders, Meter Owners
Code references:	
Dependencies:	NP-030

Description:
A Trader, Distributor or Meter Owner can request that the registry re-sends all the notifications that were delivered to them during a period of time.

Business requirements:
1. The registry must be able to re-send to participants their notifications when requested by that participant. 2. Only Traders, Meter Owners and Distributors must be able to request their notifications be re-sent. 3. Users must be able to specify the period for which notifications are re-sent. 4. The registry must deliver all the notifications immediately in a single file.

Processing:

Data inputs:
Start date. End date. <u>Example</u>: HDR,RQRSNOTIFY,CTCT,RGST,27/12/2001,11:13:12,1,All notifications for April DET,01/04/2007,30/04/2007

Data outputs:
A file containing the requested notifications.

3.6 Online queries

Sub-process:	**QU-010 Search for Address to find ICP**
Process:	Make query online
Participants:	All users
Code references:	Clause 11.28 of the Code
Dependencies:	

Description:

A user may wish to identify an ICP by using its Address to find it and check its details.

Users may particularly want to use this facility when an ICP is being switched in order to verify that the correct ICP is being switched.

NB: In order for the Address searching to produce consistent results, Distributors are provided with Address completion standards. These are provided in Appendix 2 for reference.

NB: Participants may apply to the Authority to have access to information held by the registry. The Authority must specify terms and conditions under which access to information is provided (if access is granted).

Business requirements:

1. The minimum information required for searching must be Street or Property Name.
2. Users must be able to select one street from a list of matching streets displayed with Suburb and Town, and see a list of all the properties on that street.
3. Users must be able to select an individual property from a list of properties on a street and see the ICP details for that property.
4. A trailing wildcard facility must be provided.
5. It must be possible to restrict the list of properties displayed to only those currently owned by the user's company.
6. It must be possible to restrict the list of properties displayed to only those that have been commissioned.

Processing:

System

1. Searches and displays all qualifying Streets and Property Names that meet the search criteria and filters.

2. Allows users to drill down to the addresses in a Street.
3. Allows users to select an individual address.
4. Allows users to return to the qualifying Streets and Property Names previously displayed.

Data inputs:

Search criteria

Unit number – optional.

Street number – optional.

Street name or Property Name – mandatory.

Region – optional.

Suburb – optional.

Town – optional.

Data outputs:

List of qualifying Streets and properties with their Suburbs and Towns.

List of all addresses in a selected Street.

Sub-process:	**QU-020 View ICP information**
Process:	Make query online
Participants:	All users
Code references:	Clause 11.28 of the Code.
Dependencies:	

Description:

A participant may request access to the registry. If the participant is granted access, the participant may query the system to display all the information about an ICP, ie its current information, history and audit details.

Business requirements:

1. The latest details of the ICP must be displayed on the registry, including whether the ICP is the subject of a switch. The display is to show all attributes.
2. The details of the ICP must be displayed 'as at' a particular date in the past. The display is to show all attributes that were in effect on that 'as at' day.
3. The user must be able to view the history of the ICP, ie all the events for the ICP and all switch messages, in descending Event Date sequence, not only in its complete form but also filtered by event type and/or omitting reversals and replacements.
4. The user must be able to drill down from events to see the full details of the event and its audit details.

Processing:

Data inputs:

ICP Identifier.

'As at' date.

ICP event history filters.

Data outputs:

Requested event and attribute information for the ICP.

Progress of any switching.

Sub-process:	**QU-030 View static table information**
Process:	Make query online
Participants:	All users
Code references:	Clause 11.28 of the Code
Dependencies:	SD-010 to SD-040

Description:
A participant may request access to the registry. If the participant is granted access, the participant can view the static data tables online and download them, particularly the NSP mapping table, pricing categories and loss categories.

Business requirements:
1. Users require online and download facilities of all static table information. 2. For pricing categories and loss categories, the download should be selectable by Network Participant Identifier.

Processing:

Data inputs:
Static table files.

Data outputs:
Same format as input.

Sub-process:	**QU-040 View Registry Audit Data**
Process:	Online Queries
Participants:	Registry Administrator, Authority, Participants
Rule references:	None
Dependencies:	None
Criticality	Non core

Description:
A search and inquiry screen to allow a participant to view and download their own audit records. The Authority may view audit records for any Participant.

Business requirements:

A participant may view the audit information that relates to their own activity on the Registry.
The Authority and the administrator may view audit information for any Participant.

The audit information relates to the following activities:

Data Change
- Changes to pricing codes
- Changes to Loss Factor Codes, Price Category Codes, NSP Mapping and Static Data.

User Event
- User logon, logoff events, and logon access denied

Supervisor Event
- Supervisor modification to notification parameters
- Supervisor modification to switch notification parameters
- Supervisor modification to EIEP notification parameters

EIEP Event
- EIEP transfer receipts, deliveries, acknowledgements and notifications.

Administrator Event
- Administrator modifications to Non Contiguous NSP Mapping information
- Administrator modifications to Participant definitions

A participant may perform an audit search using the criteria below (Data Inputs).
Participant may view full details relating to a selected audit. The details will vary according to the type of audit:

Audit Type	Details
User Event	• Licenses available • Licences used
Data Change	Loss Factor Code: • Code • Description • Start Date • End Date • Network • Consumption • Generation • Start Period • End Period NSP Mapping • Owner • Network • POC • Balance Area • Network Type • Parent Network • Parent POC • Start Date • End Date • Active • Description • Start Period • End Period • SB ICP's Price Category Code • Code • Description • Start Date • End Date • Network Static Data • Code Type • Code • Description • Start Date • End Date
EIEP Event	• Sender • Recipient • Utility

	• File Type • Report Month • Report Date • Unique ID • File Name • Delivered As • File Size • Arrival Time • Error code
Supervisor Event	EIEP Parameters • Acknowledge receipt to sender by email • Acknowledge receipt to sender's inbox • Confirm successful transfer to sender by email • Confirm successful transfer to sender's inbox • Notify receipt file transfer by email • EIEP email addresses Switch Notifications • Send at 08:00 • Send at 11:00 • Send at 15:00 • Send at 18:00 • Send immediately • Use separate files
Administrator Event	Administrator Maintenance • Participant Code • Description • Industry Company • Participant Disabled Indicator Start Date • Stop Date • Network Indicator • Reconciliation Manager Indicator • Retailer Indicator • Clearing Manager indicator • Market Surveyor Indicator • System Operator Indicator • Complaints Commission Indicator • Meter Owner Indicator • Suppress Retailer EOM List Report indicator • Non-Reconciled Indicator • FTP Directory Name • Zip Files Indicator NSPMapping Non Contiguous Dates • NSP Network • NSP POC

	• NSP Network • Network Type

A participant may download the selected audits in csv format.

Data inputs:
Selection criteria of : • Audit Type, Audit Activity, Audit Category • Participant and User • Date Range or most recent audits

Processing:
5. Selection criteria entered 6. Audits searched 7. Audits returned

Data outputs:
Audit records which satisfy the selection criteria Download file in csv format

3.7 Maintaining static data

Sub-process:	**SD-010 Maintain NSP data**
Process:	Maintain static data
Participants:	Reconciliation manager, participants
Code references:	Clauses 24 to 30 of Schedule 11.1 of the Code.
Dependencies:	

Description:
The Reconciliation Manager maintains the NSP information stored in the registry. The registry uses the information to validate the NSP identifier recorded as being connected to an ICP and to determine the Distributor on whose network the NSP is located.

Business requirements:

1. Entries in the NSP table must have the following information:
   - owner** – Char 4 (Distributor code);
   - registry POC ** – Char 7;
   - registry Network Participant Identifier** – Char 4;
   - registry NSP description – Char 32;
   - network type** – Char 1 (G—grid, E—embedded, I—interconnection point);
   - network connection status – Char 1 (active = Y or inactive = N);
   - parent POC – Char 7 (blank if grid connected);
   - parent network – Char 4 (blank if grid connected);
   - balancing area** – Char 12;
   - start date** – date (DD/MM/YYYY);
   - start trading period** – Char 2;
   - end date – date (DD/MM/YYYY or blank);
   - end trading period – Char 2; and
   - ICP Identifier of SB ICP – Char 15.
2. ******Each entry in the NSP table must be unique within the registry for the fields above shown marked with asterisks.
3. The Reconciliation Manager must be able to insert, delete and expire NSP information (ie input and end date and end trading period); must be able to do this online and in batch mode; and must be the only service provider able to do it.

Business requirements:

4. The system must record audit information of changes.
5. An online facility must be provided for all users to view the NSP information, sorted by registry POC, registry network and start date.
6. The information held in the NSP table must be available for all users to download.
7. Registry must maintain an audit trail for each insert/update/deletion to record who made the change and when.
8. The information must be able to be requested via ftp by any participant.
9. The validation for an NSP may be lifted on request of the Authority to allow non-contiguous dates on the same NSP.

<u>Non Contiguous Date Relaxation</u>

NSP mapping validation does not allow non-contiguous dates however there are specific mappings that require this validation to be relaxed. To enable the rule relaxation the registry manager, under instruction from the Authority, will mark specific NSP's as being allowed to have non-contiguous active date ranges. The NSP mapping entries will be identified by unique keys advised by the Authority:

- NSP Owner
- POC
- Network Participant Identifier
- Network Type

10. On instruction from the Authority, the registry manager will update mapping entries permitted to exist with non-contiguous dates. Where the Reconciliation Manager submits an NSP Mapping table update either via FTP or on-line the table of NSP mappings allowed non-contiguous date ranges will be referenced. If an NSP Mapping with the same unique keys is present in the non-contiguous table then a non-contiguous date range will be allowed, otherwise the update will be rejected as per existing rules.

Processing:

Data inputs:

Maintenance values for NSP table entries.

Data outputs:

Business requirements:
Updated NSP table.

Sub-process:	**SD-020 Maintain static data**
Process:	Maintain static data
Participants:	Registry manager
Code references:	Clauses 19 to 22 of Schedule 11.3 of the Code.
Dependencies:	

Description:

All the codes and identifiers used in the registry are maintained by the registry manager. The registry manager receives instructions regarding the maintenance of these codes and identifiers from the Authority, which approves all new codes and identifiers. The types of codes and identifiers to be maintained and their purposes are as follows:

Participant identifiers and the roles of each participant (4 characters) – valid Trader, Meter Owner and Distributor Participant Identifiers, their full company names and their roles.

Event types (3 characters) – used to validate events.

Profiles (3 characters) – general list of all Profiles that can be used in the system.

Profiles available to individual Traders during specific periods.

Regions (15 characters) – used to validate the regions that can be used in addresses. The current regions are:

- Auckland;
- Bay of Plenty;
- Canterbury;
- Gisborne;
- Hawke's Bay;
- Manawatu;
- Marlborough;
- Nelson & Bays;
- Northland;
- Otago;
- Southland;
- Taranaki;
- Timaru & Oamaru;
- Waikato;
- Wairarapa;
- Wanganui;

Description:
– Wellington; and – West Coast. Event Status codes (three digits numeric) – used to validate Status events. Status Reason codes (two digits numeric) – used to validate the Status Reason in Status events. NT switch types (two characters) – used to validate NT switching protocol messages: S, SM, H, HM, NH, HN. TN/NC register content codes (four characters) – used to validate TN and NC switching protocol messages (see below). TN/NC register units (five characters) – valid values for TN and NC messages: kWh, kW, kVA, kVArh. TN/NC meter location codes – valid values for use in TN and NC messages (see below). AN response codes (two characters) – used to validate AN switching protocol messages (see below). NW withdrawal advisory codes (two characters) – used to validate NW switching protocol messages (see below). AW/AC withdrawal response codes (one character) – used to validate AW and AC switching protocol messages: A—accept, R—reject.

Business requirements:
1. Only the registry manager must be able to add, modify or delete codes. 2. Each code and identifier must have an effective start date and end date associated with it and a full description. 3. The registry must maintain an audit trail for each insert/update/deletion to record who made the change and when.

Processing:

Data inputs:
New or changed information for each table.

Data outputs:
Updated static data tables.

Current valid codes

AN response codes

Code	Description	Explanation of use
AA	Acknowledge and accept	Switch is accepted; there are no relevant issues.
CO	Contracted customer	Alerts that this customer has a fixed-term contract at the ICP. The current Trader may be contacting this customer, relative to a switch.
MP	Metering is pre-paid	Alerts that meter is pre-paid.
MU	Unmetered supply	Alerts supply is unmetered.
OC	Occupied premises	Advises that the existing customer has not yet advised they are moving out. The premises are occupied.
PD	Premises de-energised (disconnected)	Alerts that this site is de-energised (disconnected).
AD	Advanced Metering Infrastructure metering infrastructure	Alerts that meter is an advanced meter.

NW withdrawal advisory codes

Code	Description	Explanation of use
CR	Customer requests cancellation	Customer has changed their mind and wishes to cancel.
IN	Invalid ICP Status	Site is in the process of being decommissioned.
UA	Unauthorised switch	Account holder did not authorise switch request.
WS	Wrong switch type	Switch notification received is being withdrawn.
MI	Withdrawn on metering issue	Gaining Trader requests withdrawal because of metering issue.
WP	Wrong premises	The wrong premises have or are being switched.
DF	Date failed	RTD (requested transfer date) greater than 10 business days in the future.
WR	Losing Trader not current Trader	Withdrawn, as the losing Trader is not the current Trader for the ICP. ICP has been switched to another Trader and the registry has not been updated to reflect that switch.

Register Content codes

Code	Description
D	Day – daytime only, irrespective of whether or not there is any controlled load on the register
N	Night – night-time only, irrespective of whether or not there is any controlled load on the register
EG	Embedded generation
DC	Day register for a fully controlled meter
NC	Night register for a fully controlled meter
CN	Controlled – all load on the register is subject to control via LineCo
UN	Uncontrolled – no load on the register is subject to control via the LineCo ripple relay signal
IN	Inclusive – load on the register is a combination of controlled and uncontrolled loads
KD	kW demand – KW MDI
AD	kVA demand – KVA MDI
RH	KVArh – reactive meter register
AH	KVAh – cumulative KVA register
S	Summer – records consumption during summer
W	Winter – records consumption during winter
WD	Weekday – records consumption during weekdays, ie Mon-Fri
WE	Weekend – records consumption during weekends
SWD	Summer weekday – records consumption during summer weekdays, ie Mon-Fri
DPK	Triple saver peak (0700-1100, 1700-2100)
DOP	Triple saver off peak (1100-1700, 2100-2300)
SWDD	Summer weekday day – records day consumption during summer weekdays
SWDN	Summer weekday night – records night consumption during summer weekdays
SWE	Summer weekend – records consumption during summer weekends, ie Sat-Sun
SWED	Summer weekend day – records day consumption during summer weekends
SWEN	Summer weekend night – records night consumption during summer weekends
WWD	Winter weekday – records consumption during winter weekdays, ie Mon-Fri
WWDD	Winter weekday day – records day consumption during winter weekdays

Code	Description
WWDN	Winter weekday night – records night consumption during winter weekdays
WWE	Winter weekend – records consumption during winter weekends, ie Sat-Sun
WWED	Winter weekend day – records day consumption during winter weekends
WWEN	Winter weekend night – records night consumption during winter weekends
SWDPK	Standard 3 Rate Weekday Peak Summer (0700-1100,1700-2100), 3 step rate
WWDPK	Standard 3 Rate Weekday Peak Winter (0700-1100,1700-2100), 3 step rate
WDOP	Standard 3 Rate Weekday Off Peak (1100-1700, 2100-2300) & Weekend Off Peak (0700-2300)

Meter Location Codes

Code	Description
0	No ML code
BA	BASEMENT
BD	BACK DOOR
BG	BACK OF GARAGE
BO	BOILER ROOM
BP	BACK PORCH
BR	IN BEDROOM
BS	BACK OF SHED
BW	BACK WALL
CM	CENTRAL MTR
CP	CAR PORT
CS	DAIRY SHED
CT	CELL TOWER
DE	INST DISCON@ POLE
DR	DRIVEWAY SIDE
DS	DEER SHED
FB	UNDER FRONT BALCO
FD	FRONT DOOR
FF	FIRST FLOOR
FG	FRONT GATE
FO	FOYER
FP	FRONT PORCH
FS	IMPLMENT SHED
FW	FRONT WALL
GF	GROUND FLOOR
GH	GLASS HOUSE
GO	GO TO OFFICE
GW	GARAGE WALL
IB	INSIDE BACK DOOR
IC	INSIDE IN CUPBOARD
ID	IN DINING ROOM
IF	INSIDE FRONT DOOR
IG	INSIDE GARAGE
IH	INSIDE HALL

Code	Description
IK	INSIDE KITCHEN
IL	INSIDE LIVING ROOM
IM	IN MONTROSE BOX
IN	INSIDE
INP	IN PORCH
IO	INSIDE OFFICE
IP	IN PUMP SHED
IR	INSIDE REAR
IS	INSIDE STORE
ISD	IN SHED
IT	IN TRANSFORMER
IW	IN WORKSHOP
LA	LAUNDRY
LB	LEFT BACK
LF	LEFT ON FRONT
LG	LH ON GARAGE
LP	LEFT PORCH
LR	IN LUNCH ROOM
LS	LEFT SHED
LW	LEFT WALL
MC	IN CUBICLE
ME	MAIN ENTRANCE
ML	MULTIPLE LOCATION
MM	MOTOR ROOM
MR	UP RIGHT OF WAY
MT	IN MEN'S TOILET
MX	METER ROOM
NM	NOT METERED
OC	OUTSIDE CUPBOARD
OF	ON FENCE
OH	ON HOUSE
OMB	ON MAIN SW/BOARD
OP	ON PUMP SHED
PB	POLE BOX

Code	Description
PD	PUMP IN OLD DAIRY
PF	PLYNTH ON FENCE
PL	IN PLYNTH
PM	PUMP
PS	PACKSHED
RB	RIGHT BACK
RF	RH ON FRONT
RG	RH ON GARAGE
RM	REMOTE METER
RO	REAR OF OFFICE
RP	RIGHT PORCH
RS	REAR SHED
RT	READ THRU WINDOW
RU	ON REAR UNIT
RW	RIGHT WALL
SA	SAME
SB	STABLE
SH	SHED
SQ	SHEARERS QUARTERS
SR	IN SWITCH ROOM
SS	WOOL SHED
ST	SUB STATION
TR	TRANSFORMER RM
TS	IN TEMP SUP BOX
UP	UPSTAIRS
US	UNDER STAIRWAY
UT	UNDER TREE
WS	WORKSHOP

Sub-process:	**SD-030 Maintain Distributor Loss Category Codes**
Process:	Maintain static data
Participants:	Distributors
Code references:	Clause 22 of Schedule 11.1 of the Code.
Dependencies:	

Description:

Each Distributor must update their own loss factor codes for Distributor Loss Category Codes entered on the table in the registry.

'Distributors' include local network owners, embedded network owners and grid-connected generators.

Business requirements:

1. Only Distributors must be able to maintain Loss Category codes and only in respect of codes that they own.
2. It should be possible to update codes both online and in batch mode.
3. A Loss Category Code must have no more than two loss factors in a calendar month. This means that loss factors must apply to the whole month (there can be no changes to the loss factors partway through a month), but there can be two records applicable to the month for different sets of trading periods, ie day and night.
4. Each Loss Category Code must be associated with a date range, consisting of one or more complete calendar months, during which its loss factor applies.
5. There must be only one Loss Category Code associated with any date range, and date ranges must not overlap.
6. The combination of Distributor code, Loss category Code, start date and start period must be unique.
7. Only Loss category Code information relating to a future date range may be modified.
8. Each Loss Category Code must cover a range of trading periods so that every trading period has a single applicable loss factor. (For example, there could be different factors applied to day and night.)
9. Each participant must be able to view and download the complete Loss Category Code table on the registry online.
10. The table entry relating to a Loss Category Code may only be deleted if it has never been used against an ICP.
11. The registry must maintain an audit trail for each insert/update/deletion to record who made the change and when.

    NB: It must be noted that a trading period of 48 indicates the end of day. Users are to make their

own appropriate adjustments for Daylight Saving.

Processing:
System 1. Validates all attributes and checks any dependencies. 2. Updates the Loss Category Code table in the registry accordingly. 3. Generates notifications to all Traders who are responsible for ICPs that have been assigned the affected loss factor code.

Data inputs:

Each attribute on an output line is comma separated.

New or modified loss factor code information.

Attributes input	Format	Mandatory/ optional	Comments
Record Type	Char 3	M	“DET”
Network Participant Identifier	Char 4	M	Valid Participant Identifier for Distributor.
Distributor Loss Category Code	Alphanumeric 7	M	
Loss factor consumption	Numeric 1.-4	M	May be modified only if the start date is in the future.
Loss factor generation	Numeric 1.-4	O	May be modified only if the start date is in the future.
Start date	DD/MM/YYYY	M	May be modified only if in the future.
End date	DD/MM/YYYY	O	If missing, denotes that loss factors are valid until further notice. May only be modified when missing or in the future, and cannot be changed to a date in the past.
Start period	Numeric 2 (1 to 48)	O	Defaults to 1.
End period	Numeric 2 (1 to 48)	O	Defaults to 48. If < start period then the duration indicated ends on the following day, ie goes over midnight.

Date and time of last change	DD/MM/YYYY HH:MM:SS	M	Date and time when information was last updated or inserted.

Data outputs:
Updated loss factor code table. Audit trail. Notifications sent to all Traders who are responsible for ICPs that have been assigned the affected loss factor code. For consistency Loss Factor notifications use the same output format as NP-010, but the code and start date are included in place of ICP number and event date respectively.

Example:

Network	Loss Category code	Loss factor consump-tion	Loss factor genera-tion	Start date	End date	Start period	End period	Last changed
NELS	N5	1.0490	1.0000	01/04/04		1	48	01/04/04 08:23:44
NELS	N6	1.0300	1.0000	01/04/04	31/05/05	1	48	01/04/04 08:23:44
NELS	N6	1.0300	1.0000	01/06/05		1	48	01/07/05 09:23:40
ORON	WGL	1.0470	.9530	01/10/03	31/03/04	1	15	01/10/03 22:09:15
ORON	WGL	1.0520	1.0000	01/10/03	31/03/04	16	48	01/10/03 22:09:15
ORON	WGL	1.0550	1.0000	01/04/04	30/09/04	1	15	01/04/04 08:23:44
ORON	WGL	1.0610	1.0000	01/04/04	30/09/04	16	48	01/04/04 08:23:44
ORON	WGL	1.0470	1.0000	01/10/04		1	15	01/04/04 08:23:44
ORON	WGL	1.0520	1.0000	01/10/04		16	48	01/04/04 08:23:44

Sub-process:	**SD-040 Maintain Distributor Price Category Codes**
Process:	Maintain static data
Participants:	Distributors, participants
Code references:	Clause 23 of Schedule 11.1 of the Code.
Dependencies:	

Description:
Each Distributor must update their own Distributor Price Category Codes entered on the table in the registry.

Business requirements:

1. Only Distributors must be able to update Distributor Price Category Codes and only in respect of codes that they own.
2. It should be possible to update codes both online and in batch mode.
3. A Distributor Price Category Code must be included on the table in respect of all periods for which an ICP has the Distributor Price Category Code assigned to it.
4. Each Distributor Price Category Code must be associated with a date range.
5. There must be only one Distributor Price Category Code associated with any date range, and date ranges must not overlap.
6. The combination of Distributor Participant Identifier, Distributor Price Category Code and start date must be unique.
7. Each participant must be able to view and download the complete loss factor code table on the registry online.
8. A table entry relating to a Distributor Price Category Code may only be deleted if it the Code has never been assigned to an ICP.
9. The registry must maintain an audit trail for each insert/update/deletion to record who made the change and when.
10. The information must be able to be requested via FTP by any participant.

System
1. Validates all attributes and checks any dependencies. 2. Updates the Distributor Price Category Code table in the registry accordingly. 3. Generates notifications to all Traders who are responsible for ICPs that have been assigned the relevant Distributor Price Category Code.

Data inputs:

Each attribute on an output line is comma separated.

New or modified Distributor Price Category Code information.

Name	Format	Mandatory/ optional	Comments
Record Type	Char 3	M	“DET”
Network Participant Identifier	Char 4	M	Valid Participant Identifier for Distributor..
Distributor Price Category Code	Alphanumeric 15	M	
Effective start date	DD/MM/YYYY	M	May be modified only if in the future.
Effective end date	DD/MM/YYYY	O	If missing, denotes that pricing factors are valid until further notice. May only be modified when missing or in the future, and cannot be changed to a date in the past.
Price category description	Char 32	O	
Date and time of last change	DD/MM/YYYY HH:MM:SS	M	Date and time when information was last updated.

Example
HDR,RQPRICECAT,RETA,RGST,03/08/2011,14:27:05,1,Price Category Updates
DET,NETA,PRCAT99,01/04/2013,,High Value Category

Data outputs:
Updated Distributor Price Category Code table. Audit trail. Notifications sent to all Traders who are responsible for ICPs that have been assigned the affected Price Category. For consistency Price Category notifications use the same output format as NP-010, but the code and start date are included in place of ICP number and event date respectively.

3.8 Security

Sub-process:	**SU-010 Supervisor adds new user**
Process:	Supervise own users
Participants:	Traders, Distributors, Meter Owners, Authority
Code references:	
Dependencies:	

Description:
A supervisor of a participant company adds a new user for the company and determines the user's rights to access the registry.

Business requirements:
1. The registry must provide a facility so that each participant organisation is able to add and maintain their own logons online. 2. The registry must check that the facility for adding and maintaining new logons is restricted to a user logon with supervisory rights. 3. The registry must allow the supervisor to permit specific users from other organisations to act as an agent for the supervisor's organisation. 4. The registry must validate that the logon is unique within the participant company's logons, and that the password conforms to industry standards in terms of minimum length, containing characters and numbers, that the password cannot be the same as the previous five logons, and that passwords cannot be based on the logon ID etc. See Appendix 3 for details on the password standard. 5. The registry must provide a facility for supervisor to assign access rights to registry functions, ie read-only, ICP maintenance and switching, submission of reports etc to all logons, including users given permission to 'act as an agent'.

Processing:
Data inputs:
New logon details and access rights.

Data outputs:
Confirmation of successful update or an error message.

Sub-process:	**SU-020 Disables user**
Process:	Supervise own users
Participants:	Traders, Distributors, Meter Owners, Authority
Code references:	
Dependencies:	

Description:
A supervisor disables an existing user in order to prevent the user's logon from being used to gain access to the system.

Business requirements:
1. The supervisor must be able to disable any of their participant company's logons when they are no longer required. 2. The system must lock-out a logon after three failed attempts to log on as a suspected attempt at unauthorised access. 3. The system must lock-out logons that have expired due to the password not being changed within 30 days. 4. Once a logon has expired, the user is allowed three grace logon attempts.

Processing:

Data inputs:
Logon.

Data outputs:
Confirmation of successful disablement.

Sub-process:	**SU-030 Supervisor resets user password**
Process:	Supervise own users
Participants:	Traders, Distributors, Meter Owners, Authority
Code references:	
Dependencies:	SU-020

Description:
When a logon has been disabled, either by the system or by the supervisor, the supervisor can reset the user's password to re-enable the logon.

Business requirements:
1. It must be possible to re-enable a user's logon once it has been locked out or disabled. 2. The logon must be re-enabled by the supervisor of the company responsible for the logon.

Processing:

Data inputs:
Locked-out user identifier. New user password.

Data outputs:
Confirmation of successful re-enablement.

Sub-process:	**SU-040 Assign agent**
Process:	Supervise own users
Participants:	Traders, Distributors, Meter Owners, Authority
Code references:	Clause 11.9 of the Code.
Dependencies:	SD-020

Description:

The supervisor provides that a person who is acting as an agent for its participant organisation can access the system on behalf of the participant organisation, by assigning access rights to that agent. That agent will be able to create logons, which will be able to be used to perform maintenance, switching and reporting on behalf of the participant.

Business requirements:

1. Only users with supervisor privileges must be able to assign agency rights to another party's logon.

Processing:

System

1. Provides an online function to allow the supervisor to assign agency rights responsible for the logon.
2. Ensures that only supervisors can assign agency rights.

Data inputs:

Logon of another company to be assigned agency rights.

Data outputs:

Confirmation of successful assignment.

Sub-process:	**PW-010 Change user password**
Process:	Security
Participants:	All users
Code references:	
Dependencies:	SU-010

Description:
The system should require users to change their passwords at least every 30 days to maintain security. The user is also able to change their password at any time.

Business requirements:
1. Passwords should conform to the password standard.

Processing:

Data inputs:
User ID. Current password. New user password.

Data outputs:
Confirmation of successful change.

3.9 EIEP Transfer

Sub-process:	**EI-010 EIEP Transfer Settings**
Process:	EIEP Transfer
Participants:	Participants (supervisor)
Rule references:	None
Dependencies:	None
Criticality	Non core

Description:

An input screen to allow a participant's supervisor to:

- Configure optional email parameters to acknowledge EIEP File upload and confirm EIEP File delivery.

Business requirements:

A participants supervisor may modify communications options to:

1. receive by email from the Registry acknowledgement of receipt of EIEP files
2. receive by file in the senders EIEP in box from the Registry acknowledgement of receipt of EIEP file
3. receive by email from the Registry confirmation of successful transfer
4. receive by file in the senders EIEP in box from the Registry confirmation of successful transfer
5. receive by email from the Registry notification of receipt of an incoming file

Where the option of receiving acknowledgement, confirmation or receipt messages by email has been selected an email address must be supplied.

Changes to EIEP communications options are audited.

Data inputs:

Processing:

EIEP Communication Settings

1. Validate EIEP communication settings
2. Update communication settings
3. Audit changes in communication settings

Data outputs:
EIEP communication option settings

Sub-process:	**EI-020 EIEP Upload and Download**
Process:	EIEP Transfer
Participants:	Traders, Distributors, Meter Owners
Rule references:	None
Dependencies:	None
Criticality	Non core

Description:

An input screen to allow a participant to:

- View and download EIEP file transfer files from their EIEP input directory that have been received from another participant.
- Select local computer files and upload into their EIEP output directory for delivery to a recipient participant.

Business requirements:

Access to the EIEP Upload and Download screen is assigned to users by their participant's supervisor.

<u>EIEP Directory Monitoring</u>
A user may view the contents of their EIEP inbox directory.
Search criteria may be applied when searching the EIEP inbox directory:

- Sender or All
- File Creation Date From

<u>File Download</u>
A file from the EIEP inbox directory may be selected and downloaded to a local computer.

<u>File Upload</u>
A user may search a local computer and upload a file into their EIEP outbox. The file will subsequently be picked up and delivered to the recipient participant.

If the Registry is unable to deliver the EIEP File, then an error message will be displayed, and the file will be moved to the sender's outbox with an appended error code.

A user is able to view the progress of the Transfer by monitoring their EIEP inbox directory.

Data inputs:

Uploaded file.

Processing:
EIEP Download 1. Apply search criteria and interrogate the EIEP Inbox directory 2. Display results of search. 3. Download selected file to a local computer. EIEP Upload 1. Load selected file into the EIEP out box inquiry criteria 2. Validate file 3. If valid transfer file to recipients EIEP in box directory else 4. Transfer file to senders EIEP outbox directory with appended error code 5. Audit the online upload of a file

Data outputs:
EIEP Audits where file upload occurs Downloaded file from EIEP inbox directory

Sub-process:	**EI-030 EIEP Transfer**
Process:	EIEP Transfer
Participants:	Electricity Authority
Rule references:	None
Dependencies:	None
Criticality	Non core

Description:

Participants are provided with an EIEP outbox into which files are deposited for delivery to other participants, and an EIEP inbox where files are received that have been delivered from other participants.

Business requirements:

EIEP file delivery is via FTPS.

An EIEP file must conform to the following file naming format:

Component	Format	Description
Sender	Char 4	Code of submitting participant
Utility Type	Char 1	
Recipient	Char 4	Code of recipient participant
File Type	Char 7	EIEP File Format
Report Month	yyyymm	
Report Run Date	yyyymmdd	
Unique ID	Char 60	e.g. hhmm run time, or ICP number but max 60 characters

Each component is underscore separated.

1. Sender must be a valid participant code and must also be the owner of the outbox into which the EIEP file has been placed.
2. The recipient must be a valid participant code.
3. The allowed character set for all components includes: “abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789."

There is no validation of Utility Type, File Type and Unique ID other than they conform to the defined format.
There is no validation of the file data, not even headers, so as is the case with all EIEPs, it is the responsibility of the sending participant to ensure that the file information is complete and correct.

A rejected file is moved into the senders EIEP inbox with an error code, representing the first error encountered, appended to the file name.

A file being delivered to a recipient will not overwrite an existing file of the same name. The file name will be amended to create a unique filename by appending a numeric identifier.

An optional acknowledgement file notification is delivered to the senders inbox when the file is received into the senders outbox. The format is the input file name with ".ack" appended.
An optional acknowledgement email notification is delivered to the sender when the file is received into the senders outbox.
An optional confirmation file notification is delivered to the sender's inbox when the file is delivered to the recipient. The format is the input file name with ".confirm" appended.
An optional email notification is sent to the recipient when an EIEP file has been delivered.

EIEP files are retained for a period of one month before deletion from the EIEP outbox.

EIEP file tracking information for audit and compliance analysis is generated. The tracked information includes:

- Sender
- Recipient
- Arrival time
- File size
- File name
- Delivery name
- Error number (if present)

Data inputs:

EIEP file to be delivered.
EIEP Transfer Settings

Processing:

1. File submitted to participants EIEP outbox
2. Optional file acknowledgment (by FTP, email, both or neither)
3. File validated
4. If file is valid - file transferred
    a. File moves to recipient EIEP inbox
    b. Optional file confirmation to sender (by FTP, email, both or neither)
    c. Optional file notification to recipient (by FTP, email, both or neither)
5. If file has an error - file rejected
    a. File moves to senders EIEP inbox with error code appended
    b. Optional file notification to sender (by FTP, email, both or neither)
6. EIEP audit created

Data outputs:
Email acknowledgement and notification. EIEP File delivery to recipient EIEP audit.

Appendix 1 Calculation of the ICP checksum

Retail competition committee

27 January 1999

Approach to generating checksums for unique IDs v1.1

Executive summary

This paper considers the requirements for the checksum to be used with the Unique ID. Based on the requirements outlined in this paper an approach to generating the checksum is prescribed. This approach should be used by networks to generate Unique IDs initially and all parties to validate the Unique IDs.

Disclaimer: This paper has been written for discussion purposes only. It does not necessarily represent the views of the writer, M-co or the Working Group. While all care has been taken in the preparation of this paper M-co does not accept any responsibility for any errors or omissions.

Version control

Version	Date amended	Comments
1.0	19/1/1999	Original version issued to industry.
1.1	27/1/1999	Revised test data.
2.0	27/01/2012	Updated to reflect transition to the Electricity Authority and updates to parts 11 and 15 of the Code.

Introduction

Background

To facilitate the switching of customers from one Trader to another, every Installation Control Point (ICP)[1] in New Zealand has a unique ICP identifier.

The unique ICP identifier consists of a numerical sequence provided by the Distributor who is creating the ICP Identifier, a code assigned by the Authority, and a checksum. Each ICP Identifier has a maximum of 10 numbers followed by two letters (the code assigned by the Authority).

The numbering scheme adopted across the industry is set out in the Unique ID – Installation Control Point v1.2 paper dated 12 January 1999.

Each ICP Identifier must be created in accordance with the following format:

ICP Identifier = (numerical sequence + Authority-assigned code + checksum) where:

ICP Identifier = yyyyyyyyyyxx-checksum,

And:

ICP {numerical sequence (yyyyyyyyyy) + Authority generated Code (xx)} = yyyyyyyyyyxx.

The purpose of this paper is to outline the approach for generating and validating the checksum.

Introduction

The paper is divided into two main sections. The first section considers the requirements for the checksum. The second section prescribes in detail the method to generate and validate the checksums based on this requirement.

[1] ICP is defined as being 1 of more of the following: (a) a point of connection at which a customer installation is connected to a network other than the grid, or (b) a point of connection between a network and an embedded network, or (c) a point of connection between a network and shared unmetered load.

Checksum requirements

Factors to consider

A checksum is used to help ensure that a number has been correctly transmitted without corruption. The checksum provides additional information that can be used to validate the number provided and with some level of confidence indicate whether an error has been introduced into the number. No checksum can guarantee that an error has not been introduced but depending on the complexity of the checksum, varying degrees of certainty can be provided. When considering the type of checksum to use, the degree of confidence that is required in the number and the implications if the number is wrong should be considered.

The checksum must be capable of being printed and should be kept as short as possible.

Implications if the ICP Identifier ID is incorrect

The ICP Identifier is the sole mechanism for identifying a record in relation to an ICP in the registry. The registry does not contain any other field specific to ICP (such as name or address) that could be used to check information about the ICP. Therefore the ICP Identifier provided to the registry must be correct.

Every time a registry record is accessed or modified, the ICP Identifier must be quoted. The worst possible result of an ICP Identifier being used incorrectly relates to the Trader switching process. A gaining Trader will obtain the ICP Identifier from a customer they have signed up and will advise the registry of this change. If the wrong ICP Identifier is provided to the registry (either because it was incorrectly given by the customer or incorrectly entered by the Trader), the record for the Trader will be amended incorrectly. This will result in the losing Trader not being given incorrect information as to which ICP it no longer supplies. The net result to the customers will be that the customer whose ICP Identifier number was incorrectly given to the registry as being the ICP Identifier of the ICP being switched will receive a closing account notification, despite never asking to change Trader, and the customer that has changed Traders will receive two bills.

A Trader quoting the incorrect ICP Identifier when switching an ICP will also eventually affect the reconciliation process, although the error but may go undetected for some time.

These scenarios are just two examples of the potential impact on customers and companies if an ICP Identifier provided to the registry is incorrect.

Level of confidence required

When the registry is fully populated there will be approximately 2.04 million ICP Identifiers. If we assume that 5 percent of customers change Traders each year, there will be 80,000 change of Trader requests. A prudent assumption is that in 10 percent of these cases some form of error may be introduced in the communication of the ICP Identifier from the customer to Trader and then to the registry. This will result in 8,000 incorrect transactions.

If the checksum is capable of spotting 99 percent of errors this would still mean that each year 80 people would receive incorrect account closures and a further 80 people would receive two bills. If the checksum is capable of spotting 99.9 percent of errors this number falls to 8 each year. These errors would be additional to any other errors currently occurring in the system.

The above example is only one type of possible errors, and it is likely that there will be a much larger number of other types of transactions, including enquiries, changes of Profile, changes of Meter Owner, addition or deletion of ICPs etc. All these transactions will have some adverse impact on customers or companies if the ICP Identifier is entered incorrectly.

The number of errors each year is greatly dependent on the number of transactions and the number of times that a number is entered incorrectly. As there is no other way of cross checking an ICP Identifier in the registry it is clear that ideally the checksum should be able to detect as many errors as possible.

Specifying the checksum

Expert advice

The approach outlined below has been developed through discussions between the Implementation Team and Dr Anand Venkataraman, lecturer in computer science at Massey University.

Overall approach

The ideal scenario is one in which the space of ICP Identifier is designed with a specified Hamming distance.[2] However, there are two constraints which limit the way in which this issue can be addressed.

1. The checksum needs to consist of printable characters.
2. The checksum needs to be small, preferably no bigger than 3 characters.

Since the total number of possible customer IDs is approximately $6.76*10^{12}$ (all possible numbers between 0 and 10^{10} followed by all possible combinations of two letters), which is greater than the number of allowable checksums, it is inevitable that more than one valid ICP Identifier will end up sharing the same checksum. Thus the aim is not to detect all errors, but to minimise the likelihood of errors going undetected.

It is proposed that a polynomial code (Cyclic Redundancy Check or CRC)[3] is used to generate the checksum. The theory behind such a scheme can be found described in such works as Data and Computer Communications[4]. A two digit decimal checksum would spot about 98.4 percent of all errors. However by using a three three-digit hexadecimal checksum it will detect more than 99.9 percent of all errors. In order to maximise the error detection based on the requirements outlined above it has been decided that a three digit hexadecimal checksum will be used.

---

2 Hamming, R. W. (1980). Coding and Information Theory, 2nd ed., Prentice-Hall, Englewood Cliffs, NJ.

3 Peterson W. W. and D. T. Brown. (1961). Cyclic Codes for Error Detection, Proc. IRE, v.49, pp.228-235, Jan 1961.

4 Stallings, W. (1997). Data and Computer Communications, 5th ed., Prentice-Hall, Englewood Cliffs, NJ.

Calculating the checksum

The 15 characters comprising the ICP Identifier are viewed as a stream of 96 bits where each character of the ID is simply treated as an ASCII bit string regardless of its type (numeric or alpha).

The bits can be imagined to represent a polynomial in x of the 95th degree where their values represent the co-efficients of the corresponding powers of x. (Eg 101101 represents x5 + x3 + x2 +1). Let this polynomial be the Message polynomial M.

We choose a generator polynomial of degree n, where n is the number of bits desired in the checksum. Call this polynomial G.

We divide G into M*2n to get remainder R using modulo-2 long division.

This remainder R is then subtracted from M*2n again using modulo-2. This gives a polynomial that is guaranteed to be divisible by G.

M*2n - R is the complete frame (message including checksum).

If either the message or the checksum is corrupted in transit, then the checking procedure will find that M'*2n-R' is not divisible by R' and so can report an error.

A wise choice of the generator polynomial can guarantee to catch most errors. The international standard polynomial CRC-12 which is x12 + x11 + x3 + x2 + x + 1 (180F HEX) is proposed. Some advantages of this choice are:

It has been shown that G should ideally have at least three 1s in it. CRC-12 has six.

It has (x+1) as a prime factor. It has been shown that this property enables it to catch all odd numbers of bit errors as well.

Algorithm to calculate the checksum

Initialise a 2-byte register R to zero.

Initialise a 2-byte divisor D to 180F hex (00011000 00001111)

Append 12 bits all equal to zero to the end of the ICP

FOR each bit of the ICP (left to right): DO

Shift that bit into the 20 bit position of R

IF the 212 bit position of R is 1 THEN

R = R XOR D

ENDIF

END

Append R as 3 digit hexadecimal integer to the ICP.

Algorithm to validate the checksum	Remove the last three (hexadecimal) digits of a given ICP Identifier
	
	Compute and append checksum using Algorithm above.
	
	IF result is equal to given ICP Identifier THEN
	
	Given customer ID was valid.
	
	ELSE
	
	Given customer ID was invalid.
	
	ENDIF

Intellectual property rights	The method described in this document does not infringe on any Intellectual Property Rights.
Code available	Software is available from the Implementation Team (free of charge) to calculate and validate checksums. The code is available in C / C++ and Unix Command / Perl languages.
Printing the checksum	The checksum should be separated from the ICP by a dash to improve the readability of the number. The format of the Unique ID is to be as follows: The UI = (ICP + Checksum) Where: UI = yyyyyyyyyyxx-ccc, And: ICP {Existing code (yyyyyyyyyy) + network ID (xx)} = yyyyyyyyyyxx.

Sample ICP Identifiers

The following sample ICP Identifiers have been produced using the approach outlined in this paper:

0230994598FDDF1	0230994599FD1B4	0230994600FD301	0230994601FDF44	0230994602FD384
0230994603FDFC1	0230994604FD20B	0230994605FDE4E	0230994606FD28E	0230994607FDECB
0230994608FD115	0230994609FDD50	0230994610FD9AC	0230994611FD5E9	0230994612FD929
0230994613FD56C	0230994614FD8A6	0230994615FD4E3	0230994616FD823	0230994617FD466
0230994618FDBB8	0230994619FD7FD	0230994620FDE54	0230994621FD211	0230994622FDED1
0230994623FD294	0230994624FDF5E	0230994625FD31B	0230994626FDFDB	0230994627FD39E
0230994628FDC40	0230994629FD005	0230994630FD4F9	0230994631FD8BC	0230994632FD47C
0230994633FD839	0230994634FD5F3	0230994635FD9B6	0230994636FD576	0230994637FD933
0230994638FD6ED	0230994639FDAA8	0230994640FD1A4	0230994641FDDE1	0230994642FD121
0230994643FDD64	0230994644FD0AE	0230994645FDCEB	0230994646FD02B	0230994647FDC6E
0230994648FD3B0	0230994649FDFF5	0230994650FDB09	0230994651FD74C	0230994652FDB8C
0230994653FD7C9	0230994654FDA03	0230994655FD646	0230994656FDA86	0230994657FD6C3
0230994658FD91D	0230994659FD558	0230994660FDCF1	0230994661FD0B4	0230994662FDC74
0230994663FD031	0230994664FDDFB	0230994665FD1BE	0230994666FDD7E	0230994667FD13B
0230994668FDEE5	0230994669FD2A0	0230994670FD65C	0230994671FDA19	0230994672FD6D9
0230994673FDA9C	0230994674FD756	0230994675FDB13	0230994676FD7D3	0230994677FDB96
0230994678FD448	0230994679FD80D	0230994680FD64B	0230994681FDA0E	0230994682FD6CE
0230994683FDA8B	0230994684FD741	0230994685FDB04	0230994686FD7C4	0230994687FDB81
0230994688FD45F	0230994689FD81A	0230994690FDCE6	0230994691FD0A3	0230994692FDC63
0230994693FD026	0230994694FDDEC	0230994695FD1A9	0230994696FDD69	0230994697FD12C
0230994698FDEF2	0230994699FD2B7	0230994700FDA05	0230994701FD640	0230994702FDA80
0230994703FD6C5	0230994704FDB0F	0230994705FD74A	0230994706FDB8A	0230994707FD7CF
0230994708FD811	0230994709FD454	0230994710FD0A8	0230994711FDCED	0230994712FD02D
0230994713FDC68	0230994714FD1A2	0230994715FDDE7	0230994716FD127	0230994717FDD62
0230994718FD2BC	0230994719FDEF9	0230994720FD750	0230994721FDB15	0230994722FD7D5
0230994723FDB90	0230994724FD65A	0230994725FDA1F	0230994726FD6DF	0230994727FDA9A
0230994728FD544	0230994729FD901	0230994730FDDFD	0230994731FD1B8	0230994732FDD78
0230994733FD13D	0230994734FDCF7	0230994735FD0B2	0230994736FDC72	0230994737FD037

0230994738FDFE9	0230994739FD3AC	0230994740FD8A0	0230994741FD4E5	0230994742FD825
0230994743FD460	0230994744FD9AA	0230994745FD5EF	0230994746FD92F	0230994747FD56A
0230994748FDAB4	0230994749FD6F1	0230994750FD20D	0230994751FDE48	0230994752FD288
0230994753FDECD	0230994754FD307	0230994755FDF42	0230994756FD382	0230994757FDFC7
0230994758FD019	0230994759FDC5C	0230994760FD5F5	0230994761FD9B0	0230994762FD570
0230994763FD935	0230994764FD4FF	0230994765FD8BA	0230994766FD47A	0230994767FD83F
0230994768FD7E1	0230994769FDBA4	0230994770FDF58	0230994771FD31D	0230994772FDFDD
0230994773FD398	0230994774FDE52	0230994775FD217	0230994776FDED7	0230994777FD292
0230994778FDD4C	0230994779FD109	0230994780FDF4F	0230994781FD30A	0230994782FDFCA
0230994783FD38F	0230994784FDE45			

Appendix 2 Address population standards

Registry project

Address population guidelines

Version number	Release date	Description
1.0	4 Feb	Draft for comment
1.1		Updated for comments received
1.2	8 Mar 2002	Issued to all participants
2.0	21 Jun 2002	Total rewrite based on A/NZ addressing standards
3.0	27 Jan 2012	Updated to reflect transition to the Electricity Authority and updates to parts 11 and 15 of the Code

Introduction

About this document

This document is a rewrite of the “address population guidelines” based on the A/NZ addressing standards.

Purpose

The purpose of this document is to provide Distributors with guidelines on how they should populate the address fields on the registry. The outcome we are seeking to achieve is the consistent population of the fields so that we maximise the chance that users will correctly locate an ICP via the registry address search function.

A/NZ addressing standard

To obtain a full copy and the background of the standards please go to www.anzlic.org.au.

LINZ, who is the facilitator of these standards in New Zealand, has informed us that many of the councils have been active in the development of the standard and that they are eagerly awaiting the standard, and intend including them in contracts they let. Submissions from NZ Post have also been considered in developing the standards.

Changes to the registry address format and validations

The adoption of these new guidelines has meant that the following changes have been made to the registry address format:

- Property name field size has been increased to 75 characters.
- Validation rules modified to make it mandatory to populate the Street name field and/or the Property Name field.

Best efforts

It expected that Distributors will, on a best endeavours basis and where practical, attempt to align their address data with these guidelines over time.

The following sections

The document is broken into three sections:

A/NZ addressing standard for street addressing – this section details the component parts of an address per the A/NZ addressing standards and a definition of each component.

Guidelines for Population of Registry Address structure – this section details the rules for population of the registry Address fields.

Address population examples.

A/NZ addressing standard for street addressing

The definitions below are not extracted directly from the standards document. The standards provide a concise definition for some of the component parts, whereas other parts have an entire section detailing with the component part definition. Where there was a concise definition it has been included, and where not we have attempted to distil the essence of the standard.

The reader should refer to the full version of the A/NZ addressing standards where they require a fuller explanation of an address component. A copy of the standards can be obtained from http://www.anzlic.org.au/icsm/street/

Urban addressing

Components of urban addresses

The A/NZ addressing standard dissects an urban address into the following component parts:

- **Address number or address number range** = a number issued by government agency or local government authority that identifies a point or location on a street.
- **Road name** = official road name issued by government agency or local government authority.
- **Suburb/locality name** = a bounded locality within a city, town or shire principally of urban character and usually with a focus of a shopping centre, schools or transport facility.
- **Nearest service town/city** = an officially recognised and named population centre, defined within a geographic boundary.

Optional:

- **Sub dwelling number** = identifier for sub dwelling, eg A, 1, Flat 1, Unit 1, Unit G Apartment 1, etc.
- **Level of sub dwelling** = spatial reference to the sub-dwelling, eg basement, first floor etc.

- **Property/building name** = name given to the property or building by the owner or party with legal naming rights.
- **Complex name** = name given to the development by the owner of the development, eg “Central Park” office park in Greenlane.
- **Private street name** = is a made up address by a body other than that responsible for the definition of official street names (a corner address is made up of two official street names & therefore by definition a private street name).
- **Utility** = this is a description of something useful, eg traffic lights, street lights, barbecue, fountain.
- **Postcode** = official postal postcode.

Presentation order rules

For presentation purposes, the components of an urban address must be ordered as follows:

- Sub dwelling number;
- Level of sub dwelling;
- Utility;
- Property/building name;
- Private street name;
- Complex name;
- Address number or address number range, road name; and
- Suburb/locality name, nearest service town/city, postcode.

Rural addresses

Rural addressing applies to the addressing of sites which lie outside the limits of an urban numbering system.

Components of rural addresses

The A/NZ proposed standard dissects a rural address into the following parts:

- **Rural address number** = a number derived from the distance between a datum point and a property access point eg RAPID No.
- **Road name** = official road name issued by government agency or local authority.
- **Locality**.
- **Nearest service town/city**.

Optional:

- **Postcode**.
- **Rural delivery number**.
- **Property name (habitation name)**.

Presentation order rules

For presentation purposes, the components of a rural address must be ordered as follows:

- Personal details;
- Property name (habitation name);
- Rural address number & road name;
- Locality;
- Rural delivery number; and
- Town/city, postcode.

Guidelines for population of registry address structure

The address should uniquely identify the property/installation or device to which electricity is or can be supplied. The address is not intended to be a postal address; where possible the address held on the registry should be formatted to comply with the A/NZ addressing standards. This will improve address search results and matching exercises between various participants' databases.

The acid test to be applied when determining whether the address is adequate is…

Can you precisely locate, without ambiguity, the property/device or installation that is being supplied electricity? This means no two commissioned ICPs should have the same address, though in practice this may be difficult to achieve at times, eg two pumps in a paddock. ICP addresses that fail this test should ideally be cleansed prior to population of the registry; however, recognising that this is not a small task and not always possible we suggest that you (where possible) flag these ICPs on the registry as having an "ambiguous address".

It is recognised that when a user finds the address is ambiguous they will need to contact the Distributor who may have additional information that will assist in the identification of the ICP, eg neighbours' names and details, network plans and maps, and importantly, faultsmen/ staff with good memories.

Components of registry Address

The ICP Address held on the registry has the following attributes:

Registry address attribute	Characteristics	Optional / Mandatory
Unit	Text box 20A	Optional
Property name	Text box 75A	Mandatory if Street not entered
Number	Text box 25A	Optional
Street	Drop down combo 30A	Mandatory if Property Name not entered
Suburb	Drop down combo 30A	Mandatory if Town not entered
Town	Drop down combo 30A	Mandatory if Suburb not entered
Region	20A	Mandatory. Must be a valid Region, see list below.
Post Code	Text box 4N	Optional

Registry Address population rules

The table below details how each component part, as defined by the A/NZ addressing standard, of an address should be populated in the registry.

Note: The order that data is entered in the fields is important.

Registry address attribute	A/NZ standard for street addressing
Unit	Sub dwelling number; Level of sub dwelling
Property Name	Utility; Property/building name; Private street name; Complex name
Street Number	Address number or address number range; rural address Number
Street name	Road name
Suburb	Suburb/locality name; Rural delivery number
Town	Nearest service town/city
Region	
Postcode	Postcode

See below for some examples

Appellation

Not included in the A/NZ standard but another component that needs to be handled is the legal description of a parcel of land, ie appellation. The appellation is a textual legal description of the parcel of land, eg Lot 66.

Where only the legal description of the property is known this should be populated in the Property Name field, as the property/building name.

Field delineators

Ideally where multiple address components are entered into one field they should be delineated by a delineator such as a ";" Commas must not be used in addresses due to the use of CSV files.

Dairy numbers

Dairy farms are often assigned a number by the local dairy company. Where this number is available it should be populated in the "street number" field.

Regions

The purpose of the inclusion of region is to provide an extra segmentation of the country so that a search on an awkward street (eg Main Road) or one with only a loose association with a town or suburb will return a manageable number of matching records.

While the list of regions could be larger, the list will be restricted to the list below because the more regions the more boundaries and thus the more ambiguous situations.

The regions are based on phone book areas that are generally known by callers.

- Auckland
- Bay of Plenty
- Canterbury
- Gisborne
- Hawkes Bay
- Manawatu
- Marlborough
- Nelson & Bays
- Northland
- Otago
- Southland

- Taranaki
- Timaru & Oamaru
- Waikato
- Wairarapa
- Wanganui
- Wellington
- West Coast

Case insensitive

The registry address search function is case insensitive so Distributors are free to populate the address fields as all upper case or a mixture or upper and lower.

Change address process

In recognising that the addresses held by Distributors are sometimes ambiguous it is critical that Distributors establish and clearly communicate the processes that the Trader should follow to obtain clarification of an address and, if need be, a change of the address details on the registry. It will be equally important that the Traders then communicate and train their staff in these processes.

Examples of address

Below are a few examples of how various addresses should be populated in the registry.

Shed 4
Ansett Terminal
Auckland Airport
200 Hope Road
Otara 1234

Unit	Shed 4
Property name	Ansett Terminal; Auckland Airport
Street number	200
Street name	Hope Road
Suburb	
Town	Otara
Region	Auckland
Postcode	1234

Site 10
Outer Road
Paradise Caravan Park
45–67 Smith Street
French Bay

Unit	Site 10
Property name	Outer Road; Paradise Caravan Park
Street number	45–67
Street name	Smith Street
Suburb	
Town	FRENCH BAY
Region	Timaru & Oamaru
Postcode	

Marine Berth 15
Westhaven Marina
36–38 Westhaven Drive
Auckland

Unit	Marine Berth 15
Property name	Westhaven Marina
Street number	36–38
Street name	Westhaven Drive
Suburb	
Town	Auckland
Region	Auckland
Postcode	

Office 2
Graphic Arts Building
O'Briens Walk
Auckland University
55-78 Symonds Street
Auckland

Unit	Office 2
Property name	Graphic Arts Building; O'Briens Walk; Auckland University
Street number	55-78
Street name	Symonds Street
Suburb	
Town	Auckland
Region	Auckland
Postcode	

Suite 16
Level 5
Burnett Building
Park Alley
Northern Private Hospital
580–780 Plenty Road
Auckland

Unit	Suite 16; Level 5
Property name	Burnett Building; Park Alley; Northern Private Hospital
Street number	580–780
Street name	Plenty Road
Suburb	
Town	Auckland
Region	Auckland
Postcode	

Corner address:

Unit	
Property name	
Street number	232
Street name	Stafford Street
Suburb	
Town	Timaru
Region	Timaru & Oamaru
Postcode	

Or where not a street but more a location:

Unit	
Property name	Irrigation Pump; Corner of Highway 1 & Lower Hook Rd
Street number	
Street name	Lower Hook Rd *(select the minor of the two roads as it will be easier to find. This field could be left blank if it was deemed of no benefit given the Property Name description)*
Suburb	
Town	Waimate
Region	Timaru & Oamaru
Postcode	

Unit	
Property name	Timaru Railway Station
Street number	
Street name	Sophia Street
Suburb	
Town	Timaru
Region	Timaru & Oamaru
Postcode	

Unit	Shop 6; Level 2
Property name	Westfield Shopping Centre
Street number	
Street name	Albert Street
Suburb	
Town	Auckland
Region	Auckland
Postcode	

Unit	Shop W
Property name	Lynnmall Shopping Centre
Street number	
Street name	
Suburb	New Lynn
Town	Auckland
Region	Auckland
Postcode	

Unit	Shop 8
Property name	Royale Arcade
Street number	253
Street name	Stafford Street
Suburb	
Town	Timaru
Region	Timaru & Oamaru
Postcode	

Addresses with no street:

Unit	
Property name	Hut 54; MT Cook National Park
Street number	
Street name	
Suburb	
Town	Mt Cook
Region	West Coast
Postcode	

Unit	
Property name	Streetlighting; Cnr State Highways 1 & 82
Street number	
Street name	
Suburb	
Town	Studholme
Region	Timaru & Oamaru
Postcode	

Appendix 3 Password standards

Minimum eight characters.

Must have one alphabetic character.

Must have one numeric digit.

No more than three characters can be the same.

Cannot be part of logon ID. This is implemented as ‘No 3 consecutive characters of the password must match 3 consecutive characters in the logon ID.’

Must be composed only of alphanumeric characters (a-z and 0-9).

Is not case sensitive.

Must not contain any sequence of three characters that are in ascending or descending sequence (eg abc, zxy, 123).

Must not contain any three consecutive characters that are part of a common sequence. The implementation defines ‘common sequence’ as being the strings which form keyboard sequences (ie keys next to each other), for example, qwe, asd, ghj, etc, and the string ‘password’ (eg ‘pas’ is not allowed to be part of the password).

The password will expire after 60 days.

Cannot be one of the last five passwords used by the login ID.

Appendix 4 Batch file standards

4.1.1 This appendix provides the specification for batch file processing.

4.1.2 The format for the header record is:

Field	Format	Mandatory/ Optional	Description
Record Type	Char 3	M	"HDR"
Process Identifier	Char 10	M	The Input or Output header
Sender	Char 4	M	For files sent to the Registry this is the Participant Identifier. For files sent from the Registry is "RGST"
Recipient	Char 4	M	For files sent to the Registry this is "RGST". For files sent from the Registry is the Participant Identifier to whom the file is sent.
Creation Date	DD/MM/YYYY	M	
Creation Time	HH:MM:SS	M	
Number of detail records	Numeric	M	Number of records in the file excluding the Header record
User Reference	Char 32	O	When supplied for an input file is carried through onto the header of the returned output file
Input Request Example: HDR,RQRETMAINT,RETA,RGST,27/11/2011,11:34:12,5,RETA Update ICPs Output Example: HDR,RSACK,RGST,RETA,27/11/2011,11:34:12,5,RETA Update ICPs			

Batch interface cross reference map

Process	Input Header	Output Header
DC-010 Create an ICP DC-020 Make a new ICP ready DC-030 Nake a new ICP distributor DM-020 Add additional Distributor information DM-030 Correct Distributor information DM-040 Reverse Distributor information	RQNETMAINT	RSACK
DM-010 Change initial ICP creation date	RQDATECHG	RSACK
RA-010 Trader becomes responsible for an ICP RM-010 Reverse initial assignment RM-020 Add new Trader information RM-030 Correct Trader information RM-040 Reverse Trader information	RQRETMAINT	RSACK
RS-010 Make switch request (NT)	RQSWITCHNT	RSACK to submitting Trader RSSWITCHNT to other Trader
RS-020 Acknowledge switch request (AN)	RQSWITCHAN	RSACK to submitting Trader RSSWITCHAN to other Trader
RS-030 Complete non half-hour switch (TN)	RQSWITCHTN	RSACK to submitting Trader RSSWITCHTN to other Trader
RS-040 Complete half-hour switch (TT)	RQSWITCHTT	RSACK to submitting Trader RSSWITCHTT to other

Process	Input Header	Output Header
		Trader
RW-010 Make withdrawal request (NW)	RQSWITCHNW	RSACK to submitting Trader RSSWITCHNW to other Trader
RW-020 Acknowledge withdrawal request (AW)	RQSWITCHAW	RSACK to submitting Trader RSSWITCHAW to other Trader
RC-010 Request switch read change (NC)	RQSWITCHNC	RSACK to submitting Trader RSSWITCHNC to other Trader
RC-020 Acknowledge switch read change(AC)	RQSWITCHAC	RSACK to submitting Trader RSSWITCHAC to other Trader
PR-010 Produce ICP list PR-020 Produce monthly Trader ICP reports	RQICPLIST	RSICPLIST
PR-015 Current details report	Online submit only*	RSCDLIST
PR-030 Produce ICP event detail report	RQEVENTDTL	RSEVENTDTL
PR-035 Produce ICP attribute report	Automatic Distribution*	RSPR035ATT
PR-040 Produce switch compliance report (current breach option)	RQCUSWBR	RSSWBRCURD if detail option selected. RSSWBRCURS if summary option selected
PR-040 Produce switch compliance report (historical breach option)	RQSWBRHIST	RSSWBRHSTD if detail option selected. RSSWBRHSTS if summary option

Process	Input Header	Output Header
		selected
PR-050 Produce ICP days report	RQMICPDAYS and Automatic Distribution*	RSMICPDAYS
PR-060 Produce audit log	RQAUDIT	RSAUDIT
PR-065 Request file handler status	RQFHSTATUS	RSFHSTATUS
PR-070 Produce monthly statistics	Automatic Distribution*	RSPR070STA
PR-080 Produce monthly HHR ICP list	RQMHHRLIST and Automatic Distribution*	RSMHHRLIST
PR-090 Produce active NSPs report	RQMACTNSP and Automatic Distribution*	RSMACNSP
PR-100 Produce loss factors report	RQMLOSSFS and Automatic Distribution*	RSMLOSSFS
PR-110 Produce maintenance compliance report	RQMMAINTCP Automatic Distribution*	RSMMAINTCP
PR-120 Produce NSP mapping table report	RQMNSPMAP	RSNNSPMAP
PR-130 Produce monthly activity and status summary report	Automatic Distribution*	5 files produced: • RMSTATR1 • RMSTATR2 • RMSTATR3 • RMSTATR4 • RMSTATR5
PR-140 Produce monthly switch completion report	Automatic Distribution*	RSSWCOMPLT
PR-150 Produce daily switch report	Automatic Distribution*	RSSWIDAILY
PR-160 Automated Trade Notification	RQATRADE and Automatic Distribution*	RSMATRADE

Process	Input Header	Output Header
PR-170 Produce monthly report	Automatic Distribution*	none
PR-180 Produce ICP switching trend report	Automatic Distribution*	RSPR180STA
PR-190 EIEP statistics	Automatic Distribution*	RMSTATEIEP
NP-030 Notify of event change	Automatic Distribution*	RSAUNOTIFY
NP-040 Re-send switching messages	RQRSSWFLS	Depending on the message being resent one of: • RSSWITCHNT • RSSWITCHAN • RSSWITCHTN • RSSWITCHTT • RSSWITCHNW • RSSWITCHAW • RSSWITCHNC • RSSWITCHAC
NP-050 re-send notifications	RQRSNOTIFY	RSAUNOTIFY
SD-010 Maintain NSP data	RQMACNSP	RSACK
SD-040 Maintain price category codes	RQPRICECAT	RSACK
Automatic Distribution* - the batch interface is initiated automatically, no header is defined. Online submit only* - report may be requested via online report submit screen only		