# NHH Instruction Processing Specification

**Abstract** This document provides a detailed specification of NHH instruction processing

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# 0 DOCUMENT CONTROL

## i Authorities

| Version | Date | Author | Signature | Change Reference |
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| 4.2 | 16/11/01 | Analytical Support | | Authorisation |

| Version | Date | Reviewer | Signature | Responsibility |
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## ii Distribution List

| Name | Organisation |
|---|---|
| Software Developers | Logica |
| Elexon Agents | Cap Gemini Ernst & Young |
| PRS system developers | |

# iii Contents

## iv Change History

Issue 1.2 is the first issue.

Issue 1.3 incorporates comments from Systems Delivery.

Issue 1.4 is for inclusion as part of Change Request CR113.

Issue 1.5 incorporates Pool Member comments on Change Management Circular 692.

Issue 1.6 is not for use.

Issue 1.7 incorporates Change Requests 348, 356, 392.

Issue 1.8 incorporates review comments on issue 1.7.

Issue 1.85 incorporates Change Requests 455 and 475. Issued for peer review.

Issue 1.9 incorporates review comments on issue 1.85. Issued for Programme and Project User Group review.

Issue 2.0 incorporates review comments. Issued to SDG for approval.

Issue 3.0 incorporates a late review comment. Issued to SDG for approval.

Issue 3.1 incorporates TA2000 Project SIRs (and associated CRs): SIR R0529 (CR 1219) and SIR R0575 (CR 1232).

Issue 3.2 incorporates peer review comments and TA2000 Project SIR R0716 (CR 1761).

Issue 3.3 incorporates formal review comments.

Issue 3.4 incorporates further review comments from formal review. This includes the removal of business level validation not critical to the integrity of instruction processing. This effectively removes the main changes added in issue 3.2 relating to SIR R0716 which will be documented in the NHHDA URS (Reference 1). Re-issued for TA2000 Project formal review.

Issue 4.0 as issue 3.4. Issued for TS2 approval. Approval given by TS2 at TS2/13/387 on 4th August 1999. Authorised for use.

Issue 4.1 Updated to be an ELEXON document, changed font to Tahoma, corrected diagrams in Appendix A, added text for CP628

Issue 4.2 incorporates CP722

Issue 5.0 Incorporates formal review comments and is for authorisation and use.

Issue 6.0 Updated for BETTA 6.3 and CP1091 for the SVA February 2005 Release

Issue 7.0 Updated for CP1126 for the SVA February 2006 Release

## v Changes Forecast

None.

## vi Related Documents

Reference 1 NHHDA User Requirements Specification, reference 003IBR

## vii Intellectual Property Rights and Copyright

# 1 INTRODUCTION

This specification provides a detailed explanation of NHH instruction processing. It is a technical document which is aimed at developers.

It outlines certain critical validation that is directly relevant to instruction processing. It does not specify all required validation. This is contained in the NHHDA User Requirements Specification (Reference 1).

# 2 KEY PREMISES

Five key premises associated with the specification are:

- Metering System identifiers are associated with a Distribution Business such that it appears to the system that Metering Systems can never change Distribution Businesses;
- the appointment of PRS Agents is to a Distribution Business and not to a GSP Group;
- the subject of a refresh of data from a PRS Agent is a Distribution Business;
- instruction file sequence numbers are unique and sequential between source and target;
- instruction sequence numbers are unique and sequential between source and target.

# 3 SPECIFICATION

The specification :

- explains the concepts of “relevant relationship”, “relevant relationship change” and “significant date” which simplify the definition of what instructions should contain and how they should be processed;
- explains each instruction type in terms of its use, structure, content and update processing;
- explains instruction file and instruction life cycle processing.

## 3.1 Relevant Relationship, Relevant Relationship Change and Significant Date

Instructions are required to maintain the set of relationships that are relevant to each NHH Data Aggregator. It is therefore necessary to:

- define what relationships are relevant to a NHH Data Aggregator;
- define what changes to these relationships constitute a change that the NHH Data Aggregator must be informed about;
- provide a method for ensuring the instruction production logic is consistent with the instruction processing logic.

The term “relevant relationship” addresses the first of these bullets; “relevant relationship change” the second; and “significant date” the third.

Throughout this section entities defined in the Non Half Hourly Data Aggregation User Requirements Specification (003IBR) are italicised.

### 3.1.1 Relevant Relationship

Relevant PRS relationships for a Metering System are defined as:

- the NHH Data Aggregator’s *Data Aggregator Appointments* for the Metering System;
- the *Registrations* that any of these *Data Aggregator Appointments* are for;
- the *Data Collector Appointments* which are for any of these *Registrations*;
- the *Profile Class in Registrations*, *Settlement Configuration in Registrations*, *Measurement Class in Registrations* and *Energisation Status in Registrations* which are for any of these *Registrations* and overlap with any of the NHH Data Aggregator’s *Data Aggregator Appointments* for the Metering System;
- the *Metering System Line Loss Factor Classes* and *Metering System GSP Groups* which overlap with any of the NHH Data Aggregator’s *Data Aggregator Appointments* for the Metering System;

Relevant NHH Data Collector relationships for a Metering System are defined as:

- the *Meter Advance Consumptions (DC)* for the Metering System which overlap with any of the NHH Data Aggregator's *Data Aggregator's Appointments* for the Metering System;
- the *Estimated Annual Consumptions (DC)* for the Metering System which both overlap with a period that is not covered by any of these *Meter Advance Consumptions (DC)* and overlap with any of the NHH Data Aggregator's *Data Aggregator's Appointments* for the Metering System;
- the *Registrations (DC)*, *Metering System Profile Classes (DC)*, *Metering System Measurement Classes (DC)*, *Settlement Configurations (DC)*, *Metering System GSP Groups (DC)* and *Metering System Energisation Statuses (DC)* for the Metering System, which overlap with any of the NHH Data Aggregator's relevant *Meter Advance Consumptions* or *Estimated Annual Consumptions* for the Metering System.

### 3.1.2 Relevant Relationship Change

A relevant relationship change for a NHH Data Aggregator is defined as change to a relationship where the relationship:

- is relevant to the NHH Data Aggregator post the change taking place; and/or
- was relevant to the NHH Data Aggregator prior to the change taking place.

For the avoidance of doubt, the only relationship types that have end dates explicitly maintained by instructions are *Data Aggregator Appointment* and *Meter Advance Consumption (DC).* This means, if the source holds end date information about other relationships types and there is an end date change to a relevant relationship of this type, this change on its own does not constitute a relevant relationship change.

Note: As *Data Collector Appointments* to a *Registration* are calendar date based, a change of *Data Collector Appointment* for a Metering System's *Registration* will cause all NHH Data Aggregators which are appointed to the *Registration* at any time to be notified of the change.

### 3.1.3 Significant Date

The significant date for a NHH Data Aggregator only has meaning in the context of a relevant relationship change. It is defined as the earliest date for which data in the relationship is not the same prior to the change as it is post the change.

This means that:

- for relationship types without explicit end dates, it is the start date prior to the change or the start date post the change, whichever the earlier;
- for relationship types with explicit end dates:
  - it is the end date prior to the change or the end date post the change, whichever the earlier - if it is only the end date that has changed;
  - it is the start date prior to the change or the start date post the change, whichever the earlier - if data other than the end date has changed.

The rule for determining the Significant Date for a relationship change can be summarised as follows:

Before: $Start_1$ - $Attributes_1$ - $End_1$

|----------|

After: $Start_2$ - $Attributes_2$ - $End_2$

|----------|

Rule: If relationship type has explicit end dates, and $Start_1 = Start_2$, and $Attributes_1 = Attributes_2$, then Significant Date = earliest of $\{End_1, End_2\}$

Otherwise, Significant Date = earliest of $\{Start_1, Start_2\}$.

Examples of this are given below.

Example 1

Prior to the change: |----------

Post the change: |----------

Relationship type lacks explicit end dates. Significant date is the start date prior to the change.

Example 2

Prior to the change: |----------

Post the change: |----------

Relationship type lacks explicit end dates. Significant date is the start date post the change.

Example 3

Prior to the change: |----------

Post the change: |----------|

Significant date is the end date post the change if the attributes are identical; otherwise, it is the start date. Please note that the relationship type in this example has end dates even though the end date prior to the change is NULL.

Example 4

Prior to the change: |----------|

Post the change: |----------|

Significant date is the end date prior to the change if the attributes are identical; otherwise, it is the start date.

Example 5

Prior to the change: |----------||----------

Post the change: |----------

Significant date is the end date of the first relationship prior to the change if the attributes are identical; otherwise, it is the start date.

Example 6

Prior to the change: |----------

Post the change:

Significant date is the start date prior to the change.

Example 7

Prior to the change:

Post the change: |----------

Significant date is the start date post the change.

Example 8

Prior to the change: |-----GSP Group 1------

Post the change: |-----GSP Group 2------

Significant date is the start date prior to/post the change.

The significant date for a series of relevant relationship changes is defined as the earliest significant date of the individual relevant relationship changes.

## 3.2 PRS Instructions

Note that the validation contained in this section is only that necessary to ensure the integrity of instruction processing. Other validation in the NHHDA URS is still required.

### 3.2.1 "Data Aggregator Appointment Details" Instruction Type

#### a. Use

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships for a Metering System. This includes removal of relationships that the NHH Data Aggregator no longer requires.

#### b. Structure

(See Appendix A.)

#### c. Content

The Metering System's relevant:

- PRS relationships which span or begin on or after the significant date (except Data Collector Appointments);
- Data Collector Appointments which:
  - begin on or after the significant date; or
  - begin prior to the significant date and is the latest Data Collector Appointment on or prior to the significant date for the Registration in effect on the significant date.

#### d. NHH Data Aggregator Update Processing

For the following processing to be valid it is essential that:

- the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System;
- applying the instruction will not result in any of the Metering System's Registrations being without a Data Collector Appointment, Profile Class, Standard Settlement Configuration, Measurement Class or Energisation Status at any time during a Data Aggregator Appointment;
- applying the instruction will not result in the Metering System being without a GSP Group or Line Loss Factor Class at any time during any of its Data Aggregator Appointments;
- there is not an existing Data Aggregator Appointment which:
  - is not contained in the instruction; and
  - begins prior to the significant date and either doesn't end or ends on or after the significant date;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

If:

- the instruction contains one and only one Data Aggregator Appointment; and
- this Data Aggregator Appointment has an Effective To Settlement Date in the instruction which is equal to the significant date; and
- this Data Aggregator Appointment already exists and has an open ended Effective To Settlement Date; then

set the Effective To Settlement Date of the Data Aggregator Appointment to the significant date, and do not perform the usual update processing. Delete any relationships of the following type for the Metering System which start after the significant date:

- Profile Class;
- Standard Settlement Configuration;
- Measurement Class;
- Energisation Status;
- Line Loss Factor Class;
- GSP Group.

(Note:
1. Data Aggregator Appointments and Registrations are not deleted as there cannot be any on the system, as they would overlap with the appointment being closed. Data Collector Appointments are not deleted as they are calendar day based.
2. The special circumstance referred to above was originally only proposed as a "short term" measure whilst SMRS could not support the creation of a Data Aggregator Appointment Details instruction as specified when a previously open ended Data Aggregator Appointment has its Effective To Settlement date set. It was not, therefore, formally part of the Instruction Processing specification. However, its use is now firmly established in practice and it is therefore now part of this Instruction Processing specification.)

If there is one or more relationship in the instruction and the Metering System doesn't exist, create it.

Delete:

- all the Metering System's relationships of the following types[1] which begin on or after the earlier of the significant date and the start date of the earliest relationship of the same type in the instruction:
  - Data Aggregator Appointment;
  - Profile Class;
  - Standard Settlement Configuration;
  - Measurement Class;
  - Energisation Status;
  - Line Loss Factor Class;
  - GSP Group;
- all the Metering System's Data Collector Appointment relationships where the Data Collector Appointment begins on or after the earlier of the significant date and the start date of the earliest Data Collector Appointment in the instruction that is for the same Registration.

Insert all the relationships of the following types in the instruction where, in the case of Registration, they do not already exist:

- Registration;
- Data Aggregator Appointment;
- Data Collector Appointment;
- Profile Class;
- Standard Settlement Configuration;
- Measurement Class;
- Energisation Status;
- Line Loss Factor Class;
- GSP Group.

Delete:

- all the Metering System's relationships of the following types which do not overlap with a Data Aggregator Appointment:

[1] It is intentional that Registrations are not deleted during this first phase of deletion. This is because they may have details that are not included in the instruction and do not require deleting. All Registrations which need deleting are deleted in the second deletion phase, after the insert phase has taken place. This approach copes with all situations, including the case where a Registration start date moves. In this case all the Registration's Data Aggregator Appointments are deleted in this first deletion phase and the original Registration is deleted in the second deletion phase (because it no longer has any Data Aggregator Appointments).

- Profile Class;
- Standard Settlement Configuration;
- Measurement Class;
- Energisation Status;
- Line Loss Factor Class;
- GSP Group;

- all the Metering System's Registrations and all their Data Collector Appointments where the Registration does not have any Data Aggregator Appointments.

If, once all the relationship types associated with the instruction have been processed in this way, the Metering System is left without any details, delete it.

(Note that the significance of an instruction not containing any relationships of a particular relationship type associated with the instruction type is that the Metering System does not have any relationships of this type which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing superfluous relationships and, if necessary, also removing the Metering System.)

### 3.2.2 "Data Collector Appointment Details" Instruction Type

#### a. Use

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships for a Metering System's Data Collector Appointments. This includes removal of relationships that the NHH Data Aggregator no longer requires.

#### b. Structure

(See Appendix A.)

#### c. Content

The Metering System's relevant Data Collector Appointments which:

- begin on or after the significant date; or
- begin prior to the significant date and is the latest Data Collector Appointment on or prior to the significant date for the Registration in effect on the significant date.

#### d. NHH Data Aggregator Update Processing

For the following processing to be valid it is essential that:

- the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System;

- the Registration for each Data Collector Appointment relationship in the instruction already exists;
- applying the instruction will not result in any of the Metering System's Registrations being without a Data Collector Appointment at any time;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

Delete all the Metering System's Data Collector Appointment relationships where the Data Collector Appointment begins on or after the earlier of the significant date and the start date of the earliest Data Collector Appointment in the instruction that is for the same Registration.

Insert all the Data Collector Appointment relationships in the instruction.

(Note that the significance of an instruction not containing any Data Collector Appointment relationships is that the Metering System does not have any such relationships which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing superfluous relationships of this type.)

### 3.2.3 "Profile Class/SSC in Registration Details" Instruction Type

#### a. Use

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships for a Metering System's Profile Classes and Standard Settlement Configurations. This includes removal of relationships that the NHH Data Aggregator no longer requires.

#### b. Structure

(See Appendix A.)

#### c. Content

The Metering System's relevant Profile Class and Standard Settlement Configuration relationships which span or begin on or after the significant date.

#### d. NHH Data Aggregator Update Processing

For the following processing to be valid it is essential that:

- the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System;

- the Registration for each Profile Class/Standard Settlement Configuration relationship in the instruction already exists;
- applying the instruction will not result in any of the Metering System's Registrations being without a Profile Class or Standard Settlement Configuration at any time during a Data Aggregator Appointment;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

Delete all the Metering System's Profile Class and Standard Settlement Configuration relationships which begin on or after the earlier of the significant date and the start date of the earliest relationship in the instruction.

Insert all the Profile Classes and Standard Settlement Configuration relationships in the instruction.

Delete all the Metering System's Profile Class and Standard Settlement Configuration relationships which do not overlap with a Data Aggregator Appointment.

(Note that the significance of an instruction not containing any Profile Class/Standard Settlement Configuration relationships is that the Metering System does not have any such relationships which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing any superfluous relationships of this type.)

### 3.2.4 "Measurement Class in Registration Details" Instruction Type

#### a. Use

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships for a Metering System's Measurement Classes. This includes removal of relationships that the NHH Data Aggregator no longer requires.

#### b. Structure

(See Appendix A.)

#### c. Content

The Metering System's relevant Measurement Class relationships which span or begin on or after the significant date.

#### d. NHH Data Aggregator Update Processing

For the following processing to be valid it is essential that:

- the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System;
- the Registration for each Measurement Class relationship in the instruction already exists;
- applying the instruction will not result in any of the Metering System's Registrations being without a Measurement Class at any time during a Data Aggregator Appointment;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

Delete all the Metering System's Measurement Class relationships which begin on or after the earlier of the significant date and the start date of the earliest relationship in the instruction.

Insert all the Measurement Class relationships in the instruction.

Delete all the Metering System's Measurement Class relationships which do not overlap with a Data Aggregator Appointment.

(Note that the significance of an instruction not containing any Measurement Class relationships is that the Metering System does not have any such relationships which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing any superfluous relationships of this type.)

### 3.2.5 "Energisation Status in Registration Details" Instruction Type

#### a. Use

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships for a Metering System's Energisation Statuses. This includes removal of relationships that the NHH Data Aggregator no longer requires.

#### b. Structure

(See Appendix A.)

#### c. Content

The Metering System's relevant Energisation Status relationships which span or begin on or after the significant date.

**d. NHH Data Aggregator Update Processing**

For the following processing to be valid it is essential that:

- the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System;
- the Registration for each Energisation Status relationship in the instruction already exists;
- applying the instruction will not result in any of the Metering System's Registrations being without an Energisation Status at any time during a Data Aggregator Appointment;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

Delete all the Metering System's Energisation Status relationships which begin on or after the earlier of the significant date and the start date of the earliest relationship in the instruction.

Insert all the Energisation Status relationships in the instruction.

Delete all the Metering System's Energisation Status relationships which do not overlap with a Data Aggregator Appointment.

(Note that the significance of an instruction not containing any Energisation Status relationships is that the Metering System does not have any such relationships which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing any superfluous relationships of this type.)

### 3.2.6 "GSP Group Details" Instruction Type

**a. Use**

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships for a Metering System's GSP Groups. This includes removal of relationships that the NHH Data Aggregator no longer requires.

**b. Structure**

(See Appendix A.)

**c. Content**

The Metering System's relevant GSP Group relationships which span or begin on or after the significant date.

**d. NHH Data Aggregator Update Processing**

For the following processing to be valid it is essential that:

- the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System;
- applying the instruction will not result in the Metering System being without a GSP Group at any time during any of its Data Aggregator Appointments;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

Delete all the Metering System's GSP Group relationships which begin on or after the earlier of the significant date and the start date of the earliest relationship in the instruction.

Insert all the GSP Group relationships in the instruction.

Delete all the Metering System's GSP Group relationships which do not overlap with a Data Aggregator Appointment.

(Note that the significance of an instruction not containing any GSP Group relationships is that the Metering System does not have any such relationships which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing any superfluous relationships of this type.)

### 3.2.7 "Line Loss Factor Class Details" Instruction Type

**a. Use**

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships for a Metering System's Line Loss Factor Classes. This includes removal of relationships that the NHH Data Aggregator no longer requires.

**b. Structure**

(See Appendix A.)

**c. Content**

The Metering System's relevant Line Loss Factor Class relationships which span or begin on or after the significant date.

**d. NHH Data Aggregator Update Processing**

For the following processing to be valid it is essential that:

- the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System;
- applying the instruction will not result in the Metering System being without a Line Loss Factor Class at any time during any of its Data Aggregator Appointments;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

Delete all the Metering System's Line Loss Factor Class relationships which begin on or after the earlier of the significant date and the start date of the earliest relationship in the instruction.

Insert all the Line Loss Factor Class relationships in the instruction.

Delete all the Metering System's Line Loss Factor Class relationships which do not overlap with a Data Aggregator Appointment.

(Note that the significance of an instruction not containing any Line Loss Factor Class relationships is that the Metering System does not have any such relationships which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing any superfluous relationships of this type.)

### 3.2.8 PRS Refresh

**a. Use**

By a PRS Agent to maintain a NHH Data Aggregator's relevant PRS relationships in respect of all Metering Systems associated with a Distribution Business.

**b. Structure**

(See Appendix A.)

### c. Content

The following information for all Metering Systems associated with the Distribution Business. The Metering System's relevant:

- PRS relationships which span or begin on or after the significant date (except Data Collector Appointments);
- Data Collector Appointments which:
  - begin on or after the significant date; or
  - begin prior to the significant date and is the latest Data Collector Appointment on or prior to the significant date for the Registration in effect on the significant date.

### d. NHH Data Aggregator Update Processing

For any of the following processing to be valid it is essential that the PRS Agent who sent the instruction is currently appointed to the Distribution Business associated with the Metering System. If this is not the case do not process the instruction.

For the following processing for each Metering System to be valid it is essential that:

- applying the instruction will not result in any of the Metering System's Registrations being without a Data Collector Appointment, Profile Class, Standard Settlement Configuration, Measurement Class or Energisation Status at any time during any of its Data Aggregator Appointments;
- applying the instruction will not result in the Metering System being without a GSP Group or Line Loss Factor Class at any time during any of its Data Aggregator Appointments;
- no Metering Systems exist on the database with a Data Aggregator Appointment which begins prior to the significant date and either doesn't end or ends on or after the significant date and this Data Aggregator Appointment is not included in the instruction;
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, log the errors, do not perform the apply logic detailed below for the Metering System and continue processing with the next Metering System.

To apply the instruction:

For each successfully validated Metering System in the instruction:

If there is one or more relationship in the instruction and the Metering System doesn't exist, create it.

Delete:

- all the Metering System's relationships of the following types[2] which begin on or after the earlier of the significant date and the start date of the earliest relationship of the same type in the instruction:
  - Data Aggregator Appointment;
  - Profile Class;
  - Standard Settlement Configuration;
  - Measurement Class;
  - Energisation Status;
  - Line Loss Factor Class;
  - GSP Group;
- all the Metering System's Data Collector Appointment relationships where the Data Collector Appointment begins on or after the earlier of the significant date and the start date of the earliest Data Collector Appointment in the instruction that is for the same Registration.

Insert all the Metering System's relationships of the following types in the instruction where, in the case of Registration, they do not already exist:

- Registration;
- Data Aggregator Appointment;
- Data Collector Appointment;
- Profile Class;
- Standard Settlement Configuration;
- Measurement Class;
- Energisation Status;
- Line Loss Factor Class;
- GSP Group.

Delete:

- all the Metering System's relationships of the following types which do not overlap with a Data Aggregator Appointment:
  - Profile Class;
  - Standard Settlement Configuration;
  - Measurement Class;

[2] It is intentional that Registrations are not deleted during this first phase of deletion. This is because they may have details that are not included in the instruction and do not require deleting. All Registrations which need deleting are deleted in the second deletion phase, after the insert phase has taken place. This approach copes with all situations, including the case where a Registration start date moves. In this case all the Registration's Data Aggregator Appointments are deleted in this first deletion phase and the original Registration is deleted in the second deletion phase (because it no longer has any Data Aggregator Appointments).

  - Energisation Status;
  - Line Loss Factor Class;
  - GSP Group;
- all the Metering System's Registrations and all their Data Collector Appointments where the Registration does not have any Data Aggregator Appointments.

If, once all the relationship types associated with the instruction have been processed in this way, the Metering System is left without any details, delete it.

For each Metering System associated with the Distribution Business in the instruction but not included in the instruction, remove any superfluous relationships for it as follows:

Delete:

- all the Metering System's Data Aggregator Appointments which begin on or after the significant date.
- all the Metering System's relationships of the following types which do not overlap with a Data Aggregator Appointment:
  - Profile Class;
  - Standard Settlement Configuration;
  - Measurement Class;
  - Energisation Status;
  - Line Loss Factor Class;
  - GSP Group;
- all the Metering System's Registrations and all their Data Collector Appointments where the Registration does not have any Data Aggregator Appointments.

If, once all the relationship types associated with the instruction have been processed in this way, the Metering System is left without any details, delete it.

(Note that the significance of an instruction not containing any relationships of a particular relationship type associated with the instruction type is that the Metering System does not have any relationships of this type which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing superfluous relationships and, if necessary, also removing the Metering System.)

## 3.3 NHH Data Collector Instructions

Note that the validation contained in this section is only that necessary to ensure the integrity of instruction processing. Other validation in the NHHDA URS is still required.

### 3.3.1 "EAC/AA & MS Details" Instruction Type

**a. Use**

By a NHH Data Collector to maintain a NHH Data Aggregator's relevant NHH Data Collector relationships for a Metering System. This includes removal of relationships that the NHH Data Aggregator no longer requires.

**b. Structure**

(See Appendix A.)

**c. Content**

The Metering System's relevant NHH Data Collector relationships which span or begin on or after the significant date.

**d. NHH Data Aggregator Update Processing**

For the following processing to be valid it is essential that:

- applying the instruction will not result in the Metering System being without (in the NHH Data Collector's view) a Registration, Profile Classes, Standard Settlement Configuration, Measurement Class, Energisation Status or GSP Group at any time during any of the NHH Data Collector's view of its Meter Advance Consumptions or Estimated Annual Advances;
- there is not an existing Meter Advance Consumption which:
  - is not contained in the instruction; and
  - begins prior to the significant date and ends on or after the significant date (note all Meter Advance Consumptions must end);
- the content of the instruction is consistent with the collation logic stated above in c.

If this is not the case, fail the instruction and do not continue with the remaining processing.

To apply the instruction:

If there is one or more relationships in the instruction and the Metering System doesn't exist, create it.

Delete all this NHH Data Collector's view of the Metering System's relationships of the following types which begin on or after the earlier of the significant date and the start date of the earliest relationship of the same type in the instruction:

- Meter Advance Consumption;
- Estimated Annual Consumption;
- Profile Class;

- Standard Settlement Configuration;
- Measurement Class;
- Energisation Status;
- Registration;
- GSP Group.

Insert all the relationships of the following types in the instruction:

- Registration;
- Profile Class;
- Standard Settlement Configuration;
- Measurement Class;
- Energisation Status;
- GSP Group;
- Meter Advance Consumption;
- Estimated Annual Consumption.

Delete all the Metering System's relationships of the following types which do not overlap with either a Meter Advance Consumption for this Metering System and from this NHH Data Collector or an Estimated Annualised Advance for this Metering System and from this NHH Data Collector:

- Profile Class;
- Standard Settlement Configuration;
- Measurement Class;
- Energisation Status;
- Registration;
- GSP Group.

If, once all the relationship types associated with the instruction have been processed in this way, the Metering System is left without any details, delete it.

(Note that the significance of an instruction not containing any relationships of a particular relationship type associated with the instruction type is that the Metering System does not have any relationships of this type which are relevant to the NHH Data Aggregator on or after the significant date. The above logic supports this by removing superfluous relationships and, if necessary, also removing the Metering System.)

## 3.4 Instruction Life Cycle Processing

### 3.4.1 Instruction File Processing

Consider four distinct repository areas for instruction files: one for files received and awaiting processing; one for error files; one for valid files; and one for corrupt files.

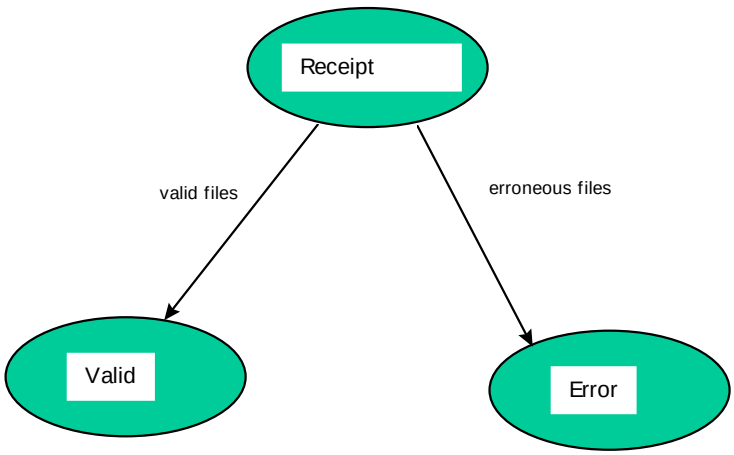
Instruction files sent to a NHH Data Aggregator are placed in the receipt area which is polled at regular intervals. The set of files in this area at polling time are validated and processed as follows.

First of all, the integrity of instruction file sequence numbers is validated. Files with an instruction file sequence number equal to that of any other instruction file which is both received from the same source and is not in the corrupt area are moved out of the receipt area to the error area. The processing of files from the sources of these erroneous files is disabled. Files with an instruction file sequence number two or more greater than the highest instruction file sequence number that is both less than the instruction file sequence number of the file being processed and is for a file from the same source are left unprocessed in the receipt area and the NHH Data Aggregator is warned that this has happened. (i.e. instruction files from the same source must be processed in incremental file sequence number order).

Files whose instruction file sequence number integrity has been established in this way are processed in strict instruction file sequence number order for each source. Each file is validated in accordance with its definition. This includes checking that the file contains contiguous instruction sequence numbers with the lowest sequence number being one more than the highest sequence number of instructions from the same source currently assuming any one of the valid instruction states (see section 3.4.3). Files that fail any of this validation are moved out of the receipt area into the error area. The processing of files from the sources of these erroneous files is disabled.

Instructions files which pass all their validation are moved out of the receipt area into a valid area. All instructions in them enter instruction processing and are placed in an unprocessed state (see section 3.4.3).

The automated movement of files between repository areas is shown below:



### 3.4.2 Instruction File Processing - Problem Resolution

A failure that caused a file to be placed in the error area and the processing of files from its source to be disabled may be because of:

- a problem on the part of the NHH Data Aggregator;
- a problem on the part of the source;
- a transmission problem.

The exact cause is determined by the NHH Data Aggregator in conjunction with the source (through discussion) and is resolved as described below.

**a. Problem on the Part of the NHH Data Aggregator**

The NHH Data Aggregator resolves the problem and moves the file from the error area back to the receipt area for reprocessing (flow 1 - see diagram below).

**b. Problem on the Part of the Source**

The source:

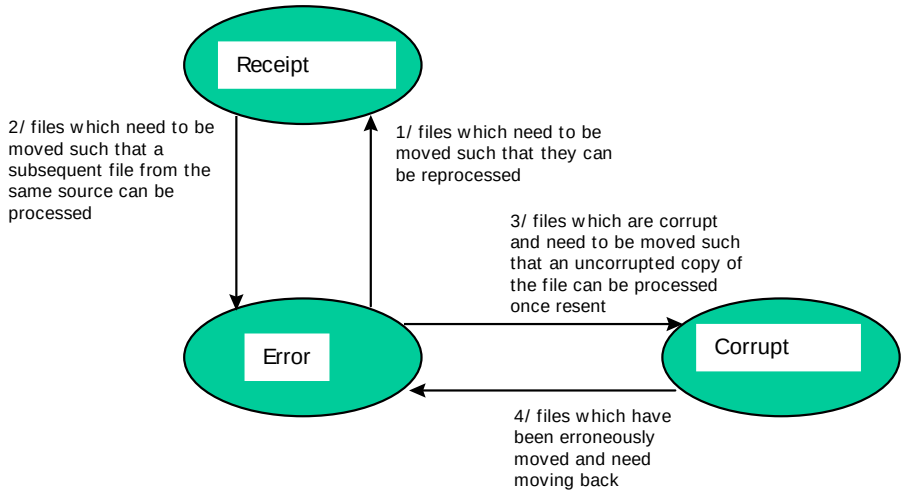
- resolves the problem;
- generates a revised file containing all instructions required to rectify the situation bearing in mind that the erroneous file and any subsequent files sent are void;
- advises the NHH Data Aggregator of the file sequence number of the revised file;
- sends the revised file to the NHH Data Aggregator.

In order that this revised file can be processed, the NHH Data Aggregator moves any files in the receipt area from the same source and with a file sequence number less than the file sequence number of the revised file into the error area (flow 2 - see diagram below).

**c. Transmission Problem**

The NHH Data Aggregator moves the corrupt file from the error area into a corrupt area (flow 3 - see diagram below) and the source resends an exact copy of the uncorrupted file (with the same file sequence number).

The valid movement of files between repository areas through operator intervention is shown below. These facilities are only available if the processing of files from the source is disabled.




Note that the NHH Data Aggregator can also move files in the corrupt area back to the error area (flow 4). This is to rectify any incorrect movement of files to the corrupt area.

For each problem resolved in this way, the NHH Data Aggregator enters a textual explanation of what they have done and why. This forms part of a full audit of the NHH Data Aggregator's file processing intervention.

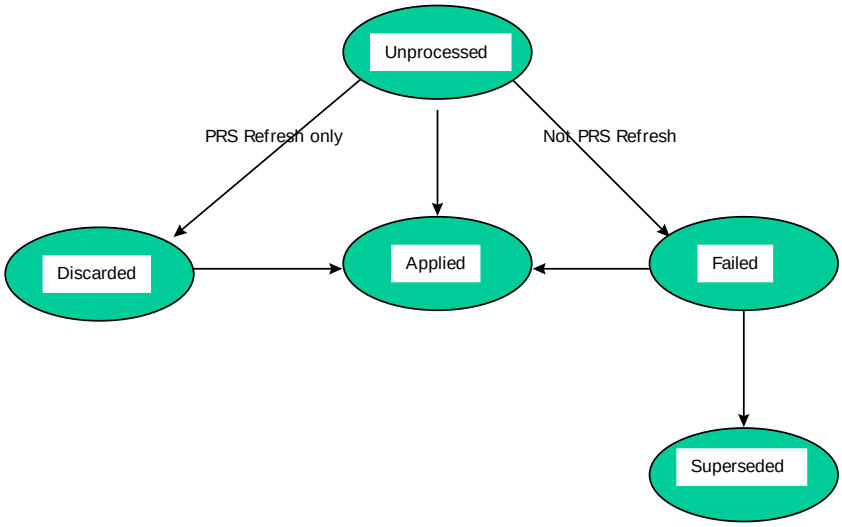
Once the problem has been resolved to the satisfaction of the NHH Data Aggregator, the processing of files from the source is re-enabled.

### 3.4.3 Instruction Processing

Instructions may have a valid state of:

- unprocessed;
- applied;
- failed;
- superseded;
- discarded.

The valid state transition diagram is as follows:




Instruction sequence numbers are sequential between source and target. Non PRS Refresh instructions are processed (application attempt) in strict instruction sequence number order for the source and Metering System. PRS Refresh instructions are processed in strict instruction sequence number order for the source (PRS Agent).

If a non PRS Refresh instruction is successfully processed, the instruction is marked as applied - otherwise it is marked as failed.

If all Metering Systems in a PRS Refresh instruction are successfully processed, the instruction is marked as applied. If any Metering Systems in a PRS Refresh instruction are not successfully processed (Refresh Failures[3]), the appropriate details will be recorded. The NHH Data Aggregator chooses whether the instruction should be marked as applied or marked as discarded[4] based on the statistics held in the instruction processing log (see section 3.4.4).

Non PRS Refresh instructions that are marked as applied or, Metering System level elements within a PRS Refresh that are processed successfully result in:

- the movement into a superseded state of the appropriate set of failed instructions, and,
- the deletion of the appropriate Refresh Failure records from an earlier PRS Refresh relating to the Metering System.

The conditions for superseding failed instructions or for deleting Refresh Failures are shown in a. to d. below.

**a. Application of a PRS Refresh instruction type supersedes failed instructions or deletes Refresh Failures which satisfy all of the below:**

- have a significant date on or after the significant date of the applied instruction;

[3] Note that the deletion of Refresh Failures is not shown in the state transition diagram as the Refresh Failure applies to a single Metering System within an instruction. Thus, deletion of a Refresh Failure does not alter the state of the PRS Refresh instruction.
[4] If the PRS Refresh is discarded then the database will be restored to the state before the PRS Refresh was begun.

- are for a Metering System associated with the Distribution Business in the applied instruction;
- are for a Metering System that:
  - is associated with the Distribution Business that is the subject of the applied instruction, but was not contained in the applied instruction; or
  - was contained in the applied instruction and was successfully processed;
- are either:
  - from the same PRS Agent as the applied instruction and have an instruction sequence number less than that of the applied instruction; or
  - from a different PRS Agent than the applied instruction and this different PRS Agent does not have a future appointment to the Distribution Business.

**b. Application of a Data Aggregator Appointment Details instruction type supersedes failed instructions or deletes Refresh Failures which satisfy all of the below:**

- have a significant date on or after the significant date of the applied instruction;
- are for the same Metering System;
- are:
  - from the same PRS Agent as the applied instruction and have an instruction sequence number less than that of the applied instruction; or
  - from a different PRS Agent than the applied instruction and this different PRS Agent does not have a future appointment to the Metering System's Distribution Business.

(Note: If all the above conditions are satisfied but the "Data Aggregator Appointment Details" instruction also conforms to the special circumstances detailed on page 13, then the instruction will not supersede any failed instructions nor delete any Refresh Failures.)

**c. Application of any other PRS instruction type (Data Collector Appointment Details, Profile Class/SSC in Registration Details, Measurement Class in Registration Details, Energisation Status in Registration Details, GSP Group Details and Line Loss Factor Class Details) supersedes failed instructions which satisfy all of the below:**

- have a significant date on or after the significant date of the applied instruction;
- are for the same Metering System;
- are either:
  - from the same PRS Agent as the applied instruction and have an instruction sequence number less than that of the applied instruction; or
  - from a different PRS Agent than the applied instruction and this different PRS Agent does not have a future appointment to the Metering System's Distribution Business.

- are of the same instruction type as the applied instruction.

**d. Application of an EAC/AA & MS Details instruction type supersedes failed instructions which satisfy all of the below:**

- have a significant date on or after the significant date of the applied instruction;
- are for the same Metering System;
- are from the same NHH Data Collector as the applied instruction and have an instruction sequence number less than that of the applied instruction.

### 3.4.4 Instruction Processing - Problem Resolution

Unsuccessful processing of instructions may be because of a problem on the part of the NHH Data Aggregator or a problem on the part of the source. The procedure for resolving failed instructions is described below.

In order that the NHH Data Aggregator can manage failed and discarded instructions, and Refresh Failures, an instruction problem management log is utilised. This log holds the latest information about all instructions that are either:

- currently in a failed or discarded state;
- PRS Refresh instructions that are awaiting NHH Data Aggregator intervention to move them to an applied or discarded state because they contained one or more Metering Systems that were not successfully processed;
- The Metering System level details that could not be successfully processed from a PRS Refresh instruction.

This information includes:

- the Metering System identifier;
- the instruction number;
- instruction type (not available for PRS Refresh);
- instruction source;
- latest processing attempt date/time (for PRS Refresh this is not available for each Refresh Failure);
- the reasons for failure/discard encountered in the latest processing attempt;
- for PRS Refresh instruction types:
  - the number of Metering Systems that were in the instruction;
  - the number of Metering Systems that were in the instruction and were not successfully processed;
  - the number of Metering Systems that were not in the instruction but are associated with the same Distribution Business as the instruction and were already on the database;

- whether the NHH Data Aggregator is able resolve each reason for failure/discard (not available for Refresh Failures);
- whether each reason for failure/discard that the NHH Data Aggregator is able to resolve has been resolved (not available for Refresh Failures);
- whether the NHH Data Aggregator wants the instruction to be reprocessed (only allowed when valid - see section a below);
- whether the NHH Data Aggregator wants data in the instruction to be resent by the appropriate PRS Agent/NHH Data Collector (only allowed for Refresh Failures and failed instructions - see section b below);
- whether the PRS Agent/NHH Data Collector has been asked to resend data in the instruction since the latest processing attempt and if so when the request was issued to them.

Information in bullets 8-11 are maintained by the NHH Data Aggregator. If in maintaining this data they indicate that they want an instruction reprocessed, it is reprocessed during the next instruction processing run. If they indicate that they want the data in the instruction resent, a request is issued to the appropriate PRS Agent/NHH Data Collector during collation of the next set instruction failure reports. The procedure for reprocessing instructions and collating instruction failure reports is explained in sections a and b respectively.

### a. Reprocessing Instructions

Failed and discarded instructions may be reprocessed unless the application of other instructions invalidates this. The instructions which it is valid to reprocess are:

- failed Data Aggregator Appointment Details instructions from a PRS Agent where:
  - no subsequent instructions for the Metering System and from the same PRS Agent have been applied; and
  - no subsequent PRS Refresh instructions for the Distribution Business associated with the Metering System and from the same PRS Agent have been applied where the Metering System was successfully processed within the PRS Refresh;
- other failed instructions from a PRS Agent where:
  - no subsequent instructions of the same type for the Metering System and from the same PRS Agent have been applied; and
  - no subsequent Data Aggregator Appointment Details instructions for the Metering System and from the same PRS Agent have been applied; and
  - no subsequent PRS Refresh instructions for the Distribution Business associated with the Metering System and from the same PRS Agent have been applied where the Metering System was successfully processed within a PRS Refresh;
- failed EAC/AA & MS Details instructions from a NHH Data Collector where no subsequent EAC/AA & MS Details instructions for the Metering System and from the same NHH Data Collector have been applied;

- discarded PRS Refresh instructions from a PRS Agent where:
  - no subsequent PRS Refresh instructions for the Distribution Business and from the same PRS Agent have been applied; and
  - no subsequent instructions for any Metering Systems associated with the Distribution Business and from the same PRS Agent have been applied.

Note that this reprocessing does support change of a Distribution Business' PRS Agent. If the PRS Agent for a Distribution Business changes between creation of an instruction and processing of the instruction (including reprocessing), the instruction will fail or be discarded because it will not pass the validation that the sending PRS Agent is the appointed PRS Agent.

### b. Resending Data

There will be situations where the NHH Data Aggregator wants the data in a failed instruction sent again. It may be that one or more of the reasons for failure is outside of NHH Data Aggregator's control or that the NHH Data Aggregator has resolved all reasons for failure but it is no longer valid to apply the instruction. The NHH Data Aggregator can therefore collate an instruction failure report for each source advising them of the reasons for failure that they are required to resolve and the data they are required to resend. This is achieved as described below.

PRS Agents

For each PRS Agent the following processing is performed:

The following information is determined for the set of Metering Systems that are both associated with a Distribution Business that the PRS Agent is currently appointed to and have a failed PRS instruction or Refresh Failure that the NHH Data Aggregator wants data resent for:

- the Metering System identifier;
- the earliest significant date across the set of failed instructions that:
  - are for the Metering System; and
  - are from a PRS Agent; and
  - the NHH Data Aggregator wants data resent for;
- the instruction number and its reasons for failure which the NHH Data Aggregator cannot resolve for all failed instructions that:
  - are for the Metering System; and
  - are from a PRS Agent; and
  - the NHH Data Aggregator has requested a resend of data for.

This data is sent to the PRS Agent. They then resolve the reasons for failure, create a correcting instruction for the Metering System with the same or an earlier significant date and send it to the NHH Data Aggregator.

NHH Data Collectors

For each NHH Data Collector the following processing is performed:

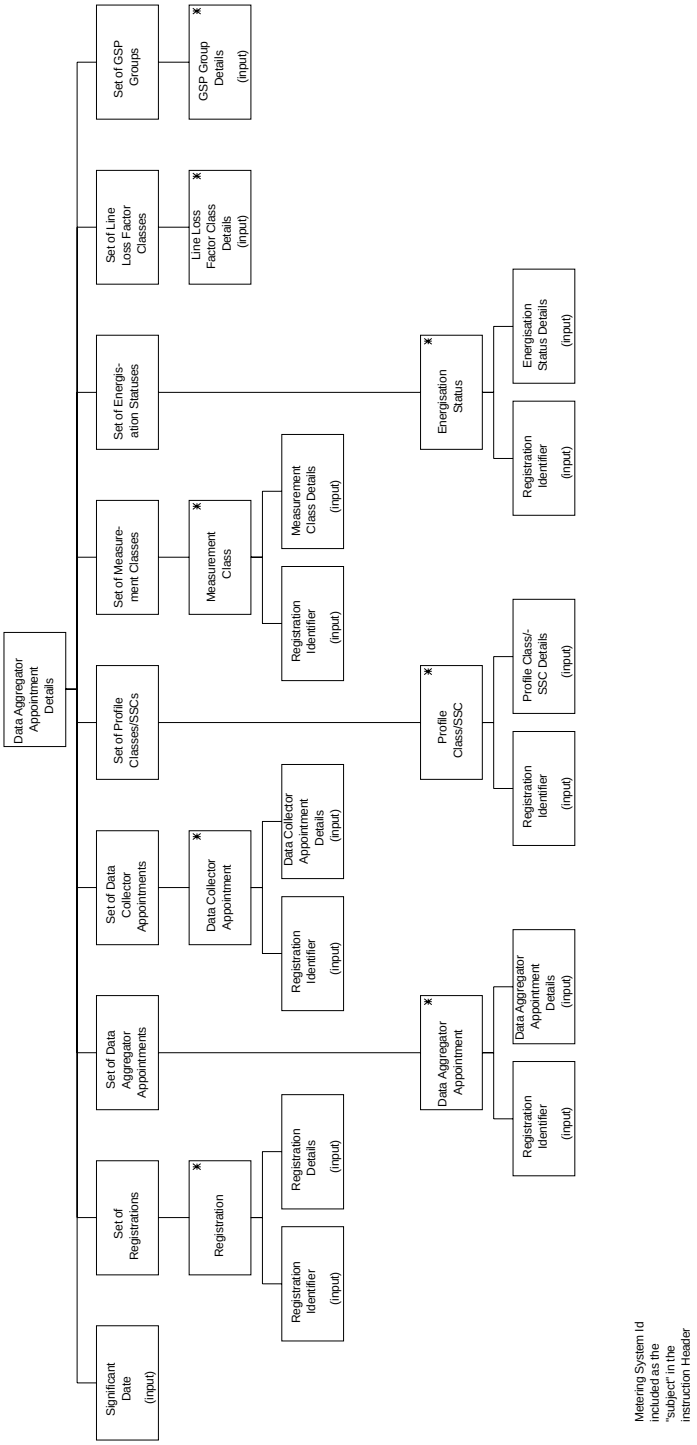
The following information is determined for the set of Metering Systems which have a failed instruction from the NHH Data Collector that the NHH Data Aggregator wants data resent for:

- the Metering System identifier;
- the earliest significant date across the set of failed instructions that:
  - are for the Metering System; and
  - are from the NHH Data Collector; and
  - the NHH Data Aggregator wants data resent for;
- the instruction number and its reasons for failure which the NHH Data Aggregator cannot resolve for all failed instructions that:
  - are for the Metering System; and
  - are from the NHH Data Collector; and
  - the NHH Data Aggregator has requested a resend of data for.

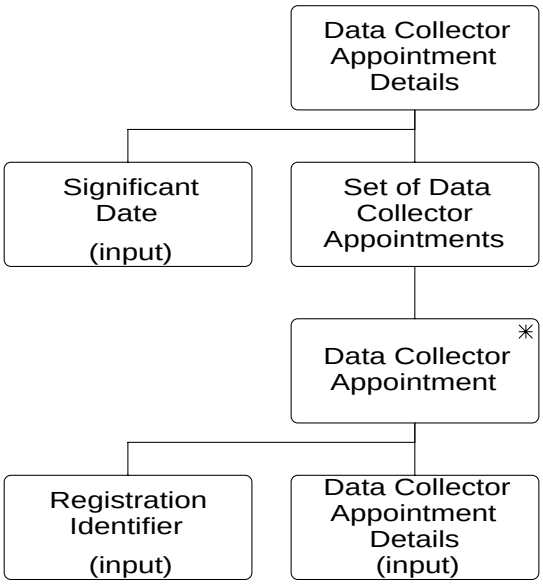
This data is sent to the NHH Data Collector. They then resolve the reasons for failure, create an EAC/AA & MS Details instruction for the Metering System with the same or an earlier significant date and send it to the NHH Data Aggregator.

# APPENDIX A - INSTRUCTION FORMAT

## Data Aggregator Appointment Details

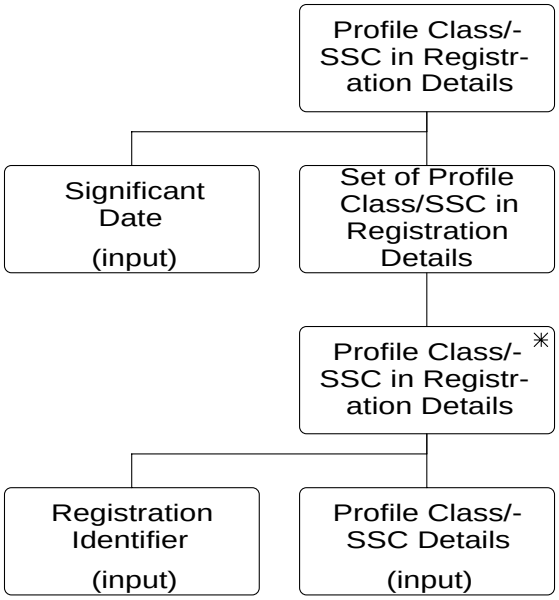


## Data Collector Appointment Details



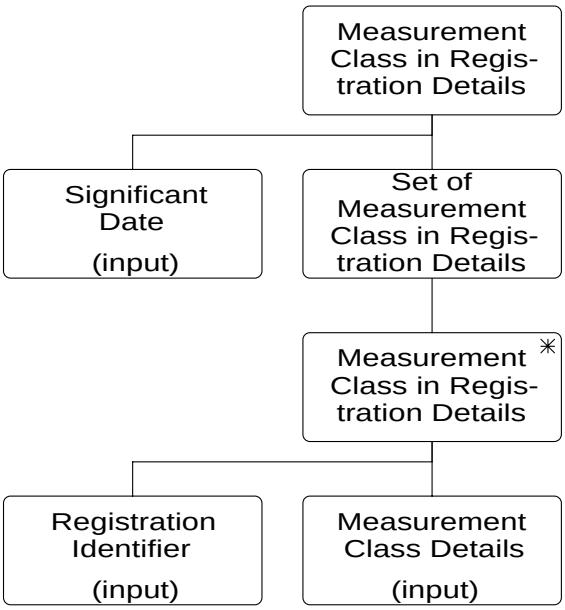

Metering System Id included as the "subject" in the instruction Header

## Profile Class / SSC in Registration Details



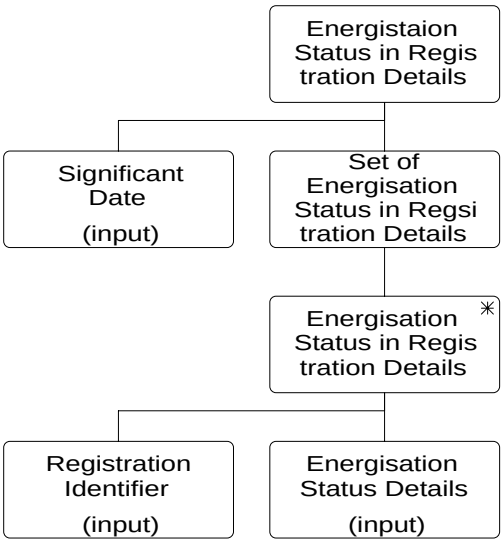

Metering System Id included as the "subject" in the instruction Header

## Measurement Class in Registration Details



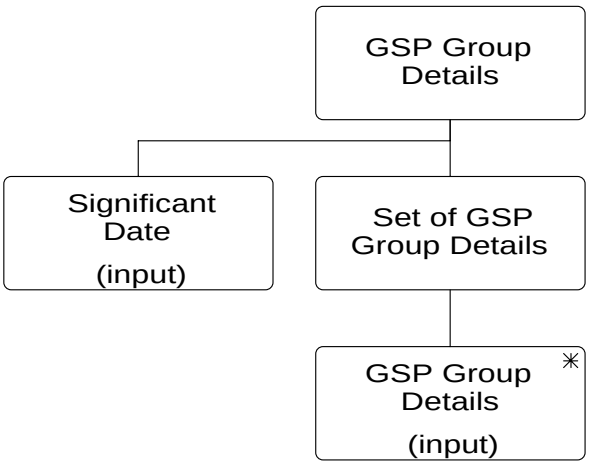

Metering System Id included as the "subject" in the instruction Header

## Energisation Status in Registration Details



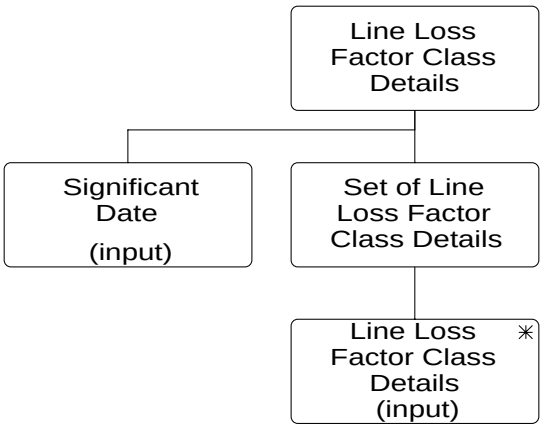

Metering System Id included as the "subject" in the instruction Header

## GSP Group Details



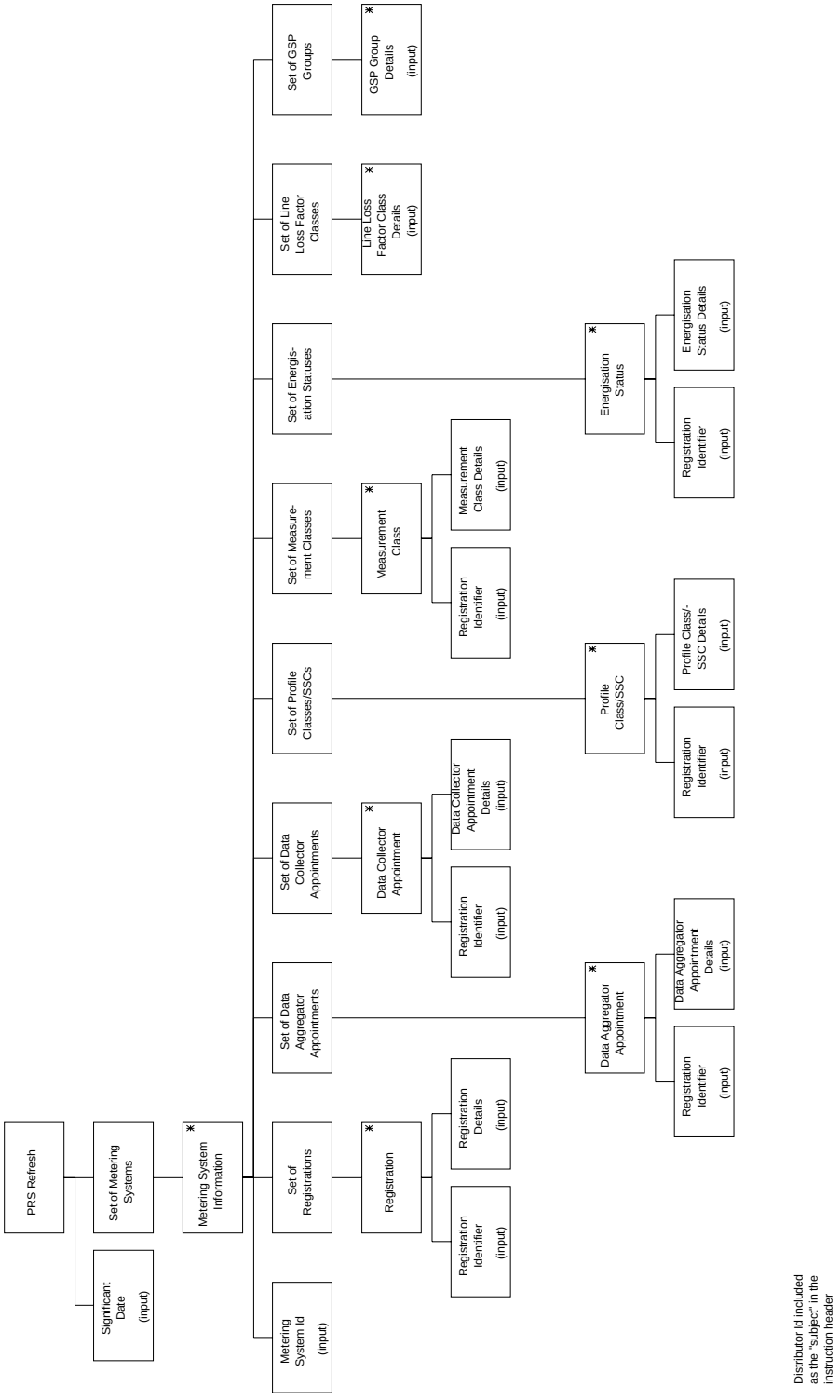

Metering System Id included as the "subject" in the instruction Header

## Line Loss Factor Class Details

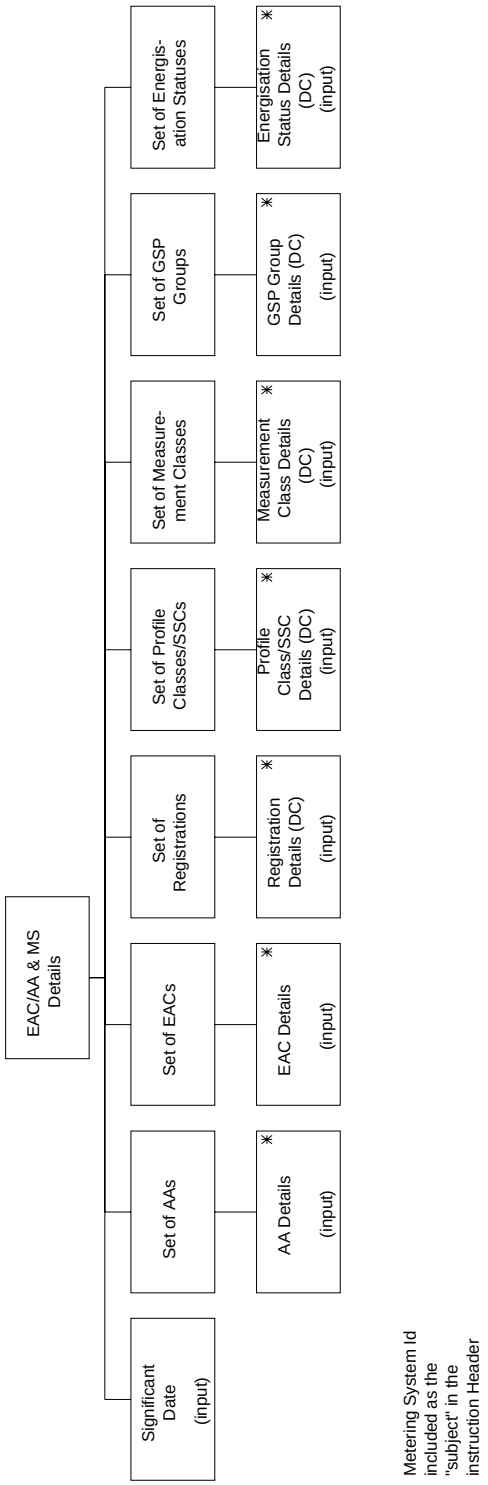



Metering System Id included as the "subject" in the instruction Header

## PRS Refresh



## EAC/AA & MS Details




## I/O Structure Data Group Data Items

| Data Group | Data Items |
|---|---|
| AA Details | Annualised Advance<br>Effective From Settlement Date {MACDC}<br>Effective To Settlement Date {MACDC}<br>Time Pattern Regime Id |
| Data Aggregator Appointment Details | Effective From Settlement Date {DAA}<br>Effective To Settlement Date {DAA} |
| Data Collector Appointment Details | Data Collector Id<br>Effective From Date {DCA} |
| EAC Details | Effective From Settlement Date {EACDC}<br>Estimated Annual Consumption<br>Time Pattern Regime Id |
| Energisation Status Details | Effective From Settlement Date {ESR}<br>Energisation Status |
| Energisation Status Details (DC) | Effective From Settlement Date {MSESDC}<br>Energisation Status Id |
| GSP Group Details | Effective From Settlement Date {MSGG}<br>GSP Group Id |
| GSP Group Details (DC) | Effective From Settlement Date {MSGGDC}<br>GSP Group Id |
| Line Loss Factor Class Details | Distributor Id<br>Effective From Settlement Date {MSLLFC}<br>Line Loss Factor Class Id |
| Measurement Class Details | Effective From Settlement Date {MCR}<br>Measurement Class Id |
| Measurement Class Details (DC) | Effective From Settlement Date {MSMCDC}<br>Measurement Class Id |
| Profile Class/SSC Details | Effective From Settlement Date {PCSSCR}<br>Profile Class Id<br>Standard Settlement Configuration Id |
| Profile Class/SSC Details (DC) | Effective From Settlement Date {MPCSSCDC}<br>Profile Class Id<br>Standard Settlement Configuration Id |
| Registration Details | Supplier Id |
| Registration Details (DC) | Effective From Settlement Date {RDC}<br>Supplier Id |
| Registration Identifier | Effective From Settlement Date {REGI} |

Note that all data items are mandatory except for the Effective To Settlement Date {DAA} in the last iteration of “Data Aggregator Appointment Details” groups in the I/O structures.

# APPENDIX B - EXAMPLES

To show how the instructions are created according to this specification, several examples have been prepared covering the normal day to day business events expected.

In the examples, several assumptions and simplifications have been made:

- all the details shown are included in the same instruction. This is important in the case of the Data Aggregator Appointments where there are two sources for the PRS information which may provide the data in different timescales.
  Note that the Data Aggregator will fail any instructions without all the required relevant relationships;
- objection processing is not considered;
- the values used are in no way representative or valid examples of the data expected for each data item;
- dates have been abbreviated to two digits for the year;
- instruction sequence numbers are not shown in the instructions contents.

# 1. New Metering System

A new Metering System with an Id of MS100 is registered in PRS and is registered to Supplier S1 from the 3 October 1998.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

None

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

Content of instruction sent to Data Aggregator DA1:

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 3 Oct 98 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 3 Oct 98 | N/A | S1 |
| Data Aggregator Appointment | 3 Oct 98 | 3 Oct 98 | N/A |
| Data Collector Appointment | 3 Oct 98 | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | 3 Oct 98 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

## 2. Change of Standard Settlement Configuration

A Metering System with an Id of MS100 changes Standard Settlement Configuration on 1 Jan 1999.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

Content of instruction sent to Data Aggregator DA1:

| Instruction Type | Profile Class / SSC Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 1 Jan 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Profile Class / Standard Settlement Configuration | 1 Jan 99 | 3 Oct 98 | PC 1, SSC 6 |

## 3. Change of Supplier and Data Aggregator

A Metering System with an Id of MS100 changes Supplier on 1 Apr 1999. The new Supplier elects to use a different Data Aggregator and reassign the original value of Standard Settlement Configuration.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| | 1 Apr 99 | S2 |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | DA 1 |
| | 1 Apr 99 | DA 2 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| | 1 Apr 99 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| | 1 Apr 99 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | MC 3 |
| | 1 Apr 99 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| | 1 Apr 99 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |

| | | |
|---|---|---|
| GSP Group | 3 Oct 98 | G7 |

Note that as GSP Group and Line Loss Factor Class are related to the Metering System and not the Registration, they will not be affected by the change of Supplier.

Content of instruction sent to Data Aggregator DA1:

There are two options for the PRS systems in this instance. In both cases, the significant date is the 31 Mar 99, as the first change to data held by DA 1 is caused by the change in the end of their appointment to this Metering System. As all start and end dated are inclusive, this will cause the Data Aggregator Appointment end date to be set to 31 Mar 99. The options are as follows:

**Option 1** as per the instruction collation logic, all relevant relationships which span or overlap the significant date.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 31 Mar 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 3 Oct 98 | N/A | S1 |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | 3 Oct 98 | N/A |
| Data Collector Appointment | 3 Oct 98 | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 1 Jan 99 | 3 Oct 98 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

**Option 2** as per the special circumstances detailed in the “Data Aggregator Appointment Details” instruction on page 13.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 31 Mar 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | 3 Oct 98 | N/A |

Content of instruction sent to Data Aggregator DA2:

A Data Aggregator Appointment instruction with details of all relationships which span or start on or after the significant date. In this instruction, the significant date is 1 Apr 99.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 1 Apr 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 1 Apr 99 | N/A | S2 |
| Data Aggregator Appointment | 1 Apr 99 | 1 Apr 99 | N/A |
| Data Collector Appointment | 1 Apr 99 | 1 Apr 99 | DC 1 |
| Profile Class / Standard Settlement Configuration | 1 Apr 99 | 1 Apr 99 | PC 1, SSC 5 |
| Measurement Class | 1 Apr 99 | 1 Apr 99 | MC 3 |
| Energisation Status | 1 Apr 99 | 1 Apr 99 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

## 4. Change of Supplier with no change of Data Aggregator

A Metering System with an Id of MS100 changes Supplier on 1 Apr 1999. The new Supplier elects to use the same Data Aggregator and reassign the original value of Standard Settlement Configuration.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| | 1 Apr 99 | S2 |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | DA 1 |
| | 1 Apr 99 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| | 1 Apr 99 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| | 1 Apr 99 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | MC 3 |
| | 1 Apr 99 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| | 1 Apr 99 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

Content of instruction sent to Data Aggregator DA1:

As in the above example, there are two options for the PRS systems in this instance. In both cases, the significant date is the 31 Mar 99, as the change to data held by DA 1 is caused by the change in the end of their appointment to this Metering System's Registration to Supplier S1. As all start and end dated are inclusive, this will cause the Data Aggregator Appointment end date to be set to 31 Mar 99. The options are as follows:

**Option 1** as per the instruction collation logic, all relevant relationships which span or overlap the significant date.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 31 Mar 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 3 Oct 98 | N/A | S1 |
| | 1 Apr 99 | N/A | S2 |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | 3 Oct 98 | N/A |
| | 1 Apr 99 | 1 Apr 99 | N/A |
| Data Collector Appointment | 3 Oct 98 | 3 Oct 98 | DC 1 |
| | 1 Apr 99 | 1 Apr 99 | DC 1 |
| Profile Class / Standard Settlement Configuration | 1 Jan 99 | 3 Oct 98 | PC 1, SSC 6 |
| | 1 Apr 99 | 1 Apr 99 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | 3 Oct 98 | MC 3 |
| | 1 Apr 99 | 1 Apr 99 | MC 3 |
| Energisation Status | 3 Oct 98 | 3 Oct 98 | E |
| | 1 Apr 99 | 1 Apr 99 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

**Option 2** as per the special circumstances detailed in the "Data Aggregator Appointment Details" instruction on page 13. This will require two instructions to be sent to the same Data Aggregator.

First Instruction:

| Instruction Type | Data Aggregator Appointment Details |
|---|---|
| Metering System Id | MS100 |
| Significant Date | 31 Mar 99 |

| Relationship Type | From | Registr. Id | Value |
|---|---|---|---|
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | 3 Oct 98 | N/A |

Second Instruction:

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 1 Apr 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 1 Apr 99 | N/A | S2 |
| Data Aggregator Appointment | 1 Apr 99 | 1 Apr 99 | N/A |
| Data Collector Appointment | 1 Apr 99 | 1 Apr 99 | DC 1 |
| Profile Class / Standard Settlement Configuration | 1 Apr 99 | 1 Apr 99 | PC 1, SSC 5 |
| Measurement Class | 1 Apr 99 | 1 Apr 99 | MC 3 |
| Energisation Status | 1 Apr 99 | 1 Apr 99 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

## 5. Change of Data Aggregator with no Change of Supplier

A Metering System with an Id of MS100 is registered to Supplier S1 from 3 Oct 98. The Supplier elects to use a different Data Aggregator from 1 APR 99.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | DA 1 |
| | 1 Apr 99 | DA 2 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

Content of instruction sent to Data Aggregator DA1:

There are two options for the PRS systems in this instance. In both cases, the significant date is the 31 Mar 99, as the first change to data held by DA 1 is caused by the change in the end of their appointment to this Metering System. As all start and end dated are inclusive, this will

cause the Data Aggregator Appointment end date to be set to 31 Mar 99. The options are as follows:

**Option 1** as per the instruction collation logic, all relevant relationships which span or overlap the significant date.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 31 Mar 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 3 Oct 98 | N/A | S1 |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | 3 Oct 98 | N/A |
| Data Collector Appointment | 3 Oct 98 | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 1 Jan 99 | 3 Oct 98 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

**Option 2** as per the special circumstances detailed in the "Data Aggregator Appointment Details" instruction on page 13.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 31 Mar 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | 3 Oct 98 | N/A |

Content of instruction sent to Data Aggregator DA2:

A Data Aggregator Appointment instruction with details of all relationships which span or start on or after the significant date. In this instruction, the significant date is 1 Apr 99.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 1 Apr 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 3 Oct 98 | N/A | S1 |

| | | | |
|---|---|---|---|
| Data Aggregator Appointment | 1 Apr 99 | 3 Oct 98 | N/A |
| Data Collector Appointment | 3 Oct 98 | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 1 Jan 99 | 3 Oct 98 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

## 6. Correction to Relationship Start Date

A Metering System with an Id of MS101 was recorded as being energised on 1 April 1998 and de-energised on 15 December 1998. However, due to operational problems, the Metering System was actually de-energised on the 20 December.

In this case, the significant date will be the 15 December as it is the date of the first change to the data held by the Data Aggregator. This will cause the Data Aggregator to delete the erroneous relationship and insert the correct one.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 1 Apr 98 | S5 |
| Data Aggregator Appointment | 1 Apr 98 | DA 1 |
| Data Collector Appointment | 1 Apr 98 | DC 2 |
| Profile Class / Standard Settlement Configuration | 1 Apr 98 | PC 2, SSC 2 |
| Measurement Class | 1 Apr 98 | MC 1 |
| Energisation Status | 1 Apr 98 | E |
| | 15 Dec 98 | D |
| Line Loss Factor Class | 1 Apr 98 | DB1, LLF 7 |
| GSP Group | 1 Apr 98 | G3 |

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 1 Apr 98 | S5 |
| Data Aggregator Appointment | 1 Apr 98 | DA 1 |
| Data Collector Appointment | 1 Apr 98 | DC 2 |
| Profile Class / Standard Settlement Configuration | 1 Apr 98 | PC 2, SSC 2 |
| Measurement Class | 1 Apr 98 | MC 1 |
| Energisation Status | 1 Apr 98 | E |
| | 20 Dec 98 | D |
| Line Loss Factor Class | 1 Apr 98 | DB1, LLF 7 |
| GSP Group | 1 Apr 98 | G3 |

Content of instruction sent to Data Aggregator DA1:

| Instruction Type | Energisation Status Details |
|---|---|
| Metering System Id | MS101 |
| Significant Date | 15 Dec 98 |

| Relationship Type | From | Registr. Id | Value |
|---|---|---|---|
| Energisation Status | 1 April 98 | 1 Apr 98 | E |
| | 20 Dec 98 | 1 Apr 98 | D |

## 7. Registration Withdrawn

A Metering System with an Id of MS100 is registered in PRS and the details are sent to Data Aggregator DA1. PRS receives a new Registration to the Metering System and sends these details to DA1 in accordance with the previous "Change of Supplier with no Change of Data Aggregator" example. Either the Registration is invalid in business terms or is in some way erroneous. The PRS system needs to withdraw the details from Data Aggregator DA 1 and reinstate the position prior to the "Change of Supplier with no Change of Data Aggregator" taking place.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| | 1 Apr 99 | S2 |
| Data Aggregator Appointment | 3 Oct 98 to 31 Mar 99 | DA 1 |
| | 1 Apr 99 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| | 1 Apr 99 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| | 1 Apr 99 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | MC 3 |
| | 1 Apr 99 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| | 1 Apr 99 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| | 1 Jan 99 | PC 1, SSC 6 |
| Measurement Class | 3 Oct 98 | MC 3 |

| | | |
|---|---|---|
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

Content of instruction sent to Data Aggregator DA1:

In this instance, the Significant Date is the 31 March 99, as the first change to data held by the Data Aggregator is the removal of the end date on the original Data Aggregator Appointment.

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 31 Mar 99 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 3 Oct 98 | N/A | S1 |
| Data Aggregator Appointment | 3 Oct 98 | 3 Oct 98 | N/A |
| Data Collector Appointment | 3 Oct 98 | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 1 Jan 99 | 3 Oct 98 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

## 8. Details sent to incorrect Data Aggregator

A Metering System with an Id of MS100 is registered in PRS and the details are sent to Data Aggregator DA1. At some point, the Supplier notices that he appointed the wrong Data Aggregator. The PRS system needs to withdraw the details from Data Aggregator DA 1 and provide them to DA 2.

The section below details the instruction that PRS would generate.

PRS Details for Metering System before change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

PRS Details for Metering System after change:

| Relationship Type | From | Value |
|---|---|---|
| Registration | 3 Oct 98 | S1 |
| Data Aggregator Appointment | 3 Oct 98 | DA 2 |
| Data Collector Appointment | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | G7 |

Content of instruction sent to Data Aggregator DA1:

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 3 Oct 98 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |

Content of instruction sent to Data Aggregator DA2:

| Instruction Type | Data Aggregator Appointment Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 3 Oct 98 | | |
| **Relationship Type** | **From** | **Registr. Id** | **Value** |
| Registration | 3 Oct 98 | N/A | S1 |
| Data Aggregator Appointment | 3 Oct 98 | 3 Oct 98 | N/A |
| Data Collector Appointment | 3 Oct 98 | 3 Oct 98 | DC 1 |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | 3 Oct 98 | PC 1, SSC 5 |
| Measurement Class | 3 Oct 98 | 3 Oct 98 | MC 3 |
| Energisation Status | 3 Oct 98 | 3 Oct 98 | E |
| Line Loss Factor Class | 3 Oct 98 | N/A | DB1, LLF 2 |
| GSP Group | 3 Oct 98 | N/A | G7 |

# 9. Initial EAC created for a Metering System

A new two register Metering System with an Id of MS100 is has an initial EAC created for each Settlement Register.

The section below details the instruction that the Data Collector would generate.

Data Collector Details for Metering System before change:

None.

Data Collector Details for Metering System after change:

| **Relationship Type** | **From** | **Value** | |
|---|---|---|---|
| Registration | 3 Oct 98 | S1 | |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| Energisation Status | 3 Oct 98 | E | |
| GSP Group | 3 Oct 98 | G7 | |
| EAC | 3 Oct 98 | **TPR Id** | **Value** |
| | | 33 | 1224 |
| | | 34 | 3512 |

Content of instruction sent to Data Aggregator DA1:

| Instruction Type | EAC/AA & MS Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 3 Oct 98 | | |
| **Relationship Type** | **From** | **Value** | |
| AA | N/A | N/A | |
| EAC | 3 Oct 98 | **TPR Id** | **Value** |
| | | 33 | 1224 |
| | | 34 | 3512 |
| Registration | 3 Oct 98 | S1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| GSP Group | 3 Oct 98 | G7 | |
| Energisation Status | 3 Oct 98 | E | |

## 10. AAs Calculated for a Metering System

A Metering System with an Id of MS100 is has its registers read. This causes an AA and a revised EAC to be calculated for each Settlement Register. These values are then forwarded to the Data Aggregator.

The section below details the instruction that the Data Collector would generate.

Data Collector Details for Metering System before change:

| Relationship Type | From | Value | |
|---|---|---|---|
| Registration | 3 Oct 98 | S1 | |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| Energisation Status | 3 Oct 98 | E | |
| GSP Group | 3 Oct 98 | G7 | |
| Initial EAC | 3 Oct 98 | **TPR Id** | **Value** |
| | | 33 | 1224 |
| | | 34 | 3512 |

Data Collector Details for Metering System after change:

| Relationship Type | From | Value | |
|---|---|---|---|
| Registration | 3 Oct 98 | S1 | |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| Energisation Status | 3 Oct 98 | E | |
| GSP Group | 3 Oct 98 | G7 | |
| EAC | 3 Oct 98 | **TPR Id** | **Value** |
| | | 33 | 1224 |
| | | 34 | 3512 |
| | 1 Dec 98 | 33 | 1238 |
| | | 34 | 3485 |
| AA | 3 Oct 98 to | 33 | 1240 |
| | 30 Nov 98 | 34 | 3478 |

Content of instruction sent to Data Aggregator DA1:

| Instruction Type | EAC/AA & MS Details | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 3 Oct 98 | | |
| **Relationship Type** | **From** | **Value** | |
| AA | 3 Oct 98 to | **TPR Id** | **Value** |
| | 30 Nov 98 | 33 | 1224 |
| | | 34 | 3548 |
| EAC | 1 Dec 98 | 33 | 1238 |
| | | 34 | 3485 |
| Registration | 3 Oct 98 | S1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| GSP Group | 3 Oct 98 | G7 | |
| Energisation Status | 3 Oct 98 | E | |

## 11. AAs withdrawn for a Metering System

A Metering System with an Id of MS100 is discovered to be faulty since 3 Oct 98 and has provided erroneous meter readings. The AAs and EACs calculated using these erroneous readings are withdrawn by the Data Collector.

The section below details the instruction that the Data Collector would generate.

Data Collector Details for Metering System before change:

| **Relationship Type** | **From** | **Value** | |
|---|---|---|---|
| Registration | 3 Oct 98 | S1 | |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| Energisation Status | 3 Oct 98 | E | |
| GSP Group | 3 Oct 98 | G7 | |
| EAC | 3 Oct 98 | **TPR Id** | **Value** |
| | | 33 | 1224 |
| | | 34 | 3512 |
| | 1 Dec 98 | 33 | 1238 |
| | | 34 | 3485 |
| AA | 3 Oct 98 to | 33 | 1240 |
| | 30 Nov 98 | 34 | 3478 |

Data Collector Details for Metering System after change:

| **Relationship Type** | **From** | **Value** | |
|---|---|---|---|
| Registration | 3 Oct 98 | S1 | |
| Data Aggregator Appointment | 3 Oct 98 | DA 1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| Energisation Status | 3 Oct 98 | E | |
| GSP Group | 3 Oct 98 | G7 | |
| EAC | 3 Oct 98 | **TPR Id** | **Value** |
| | | 33 | 1224 |
| | | 34 | 3512 |

Content of instruction sent to Data Aggregator DA1:

| Instruction Type | EAC/AA & MS Details |
|---|---|

| | | | |
|---|---|---|---|
| Metering System Id | MS100 | | |
| Significant Date | 3 Oct 98 | | |
| **Relationship Type** | **From** | **Value** | |
| AA | N/A | N/A | |
| EAC | 3 Oct 98 | **TPR Id** | **Value** |
| | | 33 | 1224 |
| | | 34 | 3512 |
| Registration | 3 Oct 98 | S1 | |
| Profile Class / Standard Settlement Configuration | 3 Oct 98 | PC 1, SSC 5 | |
| Measurement Class | 3 Oct 98 | MC 3 | |
| GSP Group | 3 Oct 98 | G7 | |
| Energisation Status | 3 Oct 98 | E | |