

# Business Requirements Definition

for

## Project Nexus

Submitted to

## Project Nexus Workgroup Reconciliation

|                            |  |
|----------------------------|--|
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## 1. Glossary

| Term / Acronym                               | Definition   |
|--|--|
| Unidentified Gas                             | Process for sharing out un-identified energy to Shippers at GFD+5  |
| CSEP   | Connected System Exit Point (i.e. Independent Gas Transporter's network)   |
| CV   | Caloric Value  |
| Drift  | Meter readings which are derived by reading equipment have the capacity for the derived read to drift from the actual reading on the meter.  |
| Estimates between Actuals                    | A period of estimate read(s) followed by an actual read. Reconciliation is performed by way of deriving better estimated reads once actual consumption is known.   |
| Failure to Obtain Check Read                 | Where a Check Read has not been submitted by the Shipper the GT will use reasonable endeavours to carry out a Check Read.  |
| LSP  | Larger Supply Point  |
| NDM  | Non-Daily Metered  |
| RbD  | Reconciliation by Difference   |
| Resynchronise / Resynchronisation / Re-synch | Where the on-site data recording equipment is out of sync with the Meter (or Corrector), a 'Resynchronise' of the equipment is carried out to ensure it displays the same as the meter. The difference between the equipment and Meter (or Corrector) prior to resynchronisation, known as 'drift', is the value reconciled. |
| Reconciliation Factors                       | The ratio of actual energy to original energy (allocated or estimated) for a day   |
| Unidentified Gas Reconciliation              | Process for sharing out un-identified energy to Shippers following a meter point reconciliation  |
| SAP  | System Average Price   |
| SSP  | Smaller Supply Point   |
| USRV   | User Suppressed Reconciliation Value (also known as NDM Filter Failures)   |

## 2. Document Purpose

The purpose of this document is to ensure that the business requirements associated with the referenced change have been accurately captured and to clearly specify these requirements to the ~~Project Nexus Reconciliation Workgroup and~~ Project Nexus UNC Workgroup (PN UNC). ~~Adequate information should be provided to enable the industry to approve the documented requirements for Cost benefit Analysis at a later stage.~~

The contents refer to the business scope of the change and provide descriptions of the business requirements and the relevant existing and future process maps.

This document builds upon the Business Requirements Definition document for Reconciliation, version 3.0 dated 25/10/2013 published on the Joint Office website:

<http://www.gasgovernance.co.uk/sites/default/files/Reconciliation%20BRD%20v3.0-1.pdf>

Following the Nexus design within the UK Link Programme, further levels of detail have been identified that needed to be presented and agreed by the industry. If necessary supporting UNC modifications will be raised. The greater detail presented in this document does not change the UNC business rules defined in Modification 0432 - Project Nexus – Gas Demand Estimation, Allocation, Settlement and Reconciliation reform.

### 2.1 Updates since the approval of Modification 0432

The following provides a summary of the updates since the BRD was baselined following approval of Modification 0432.

The table will show;

- Updates that have been made to clarify the business requirement
- Updates to reflect Modification 0432 legal text
- New requirements or changes to requirements that have been agreed at PN UNC
- Requirements that will not be delivered for Go Live and will need to be delivered in a later release of UKLink Replacement

| Updated Section in BRD | Summary of the Reason for the Update  | Source          | Date Presented at PN UNC | Date Agreed at PN UNC | Section of UNC that requires update | UNC Mod Required? | Updated in Version of BRD | Date BRD Updated |
|------------------------|---|-----------------|--------------------------|-----------------------|-------------------------------------|-------------------|---------------------------|------------------|
| 5.1                    | Remove statement 'aspiration for new reconciliation rules to apply to NDM CSEPs' as iGT sites are in scope.                           | Mod 0440        | N/A                      | N/A                   | N/A                                 | No                | 3.1                       | 20/02/2015       |
| 6.2.4                  | Removed dependency regarding meter point reconciliation for iGT sites as Mod 0440 approved  | Mod 0440        | N/A                      | N/A                   | N/A                                 | No                | 3.2                       | 20/03/2015       |
| 6.3.4                  | Removed risk regarding meter point reconciliation for iGT sites as Mod 0440 approved  | Mod 0440        | N/A                      | N/A                   | N/A                                 | No                | 3.2                       | 20/03/2015       |
| 8.1.6                  | Added clarification that a re-synch accounts for the drift  | Internal review | N/A                      | N/A                   | N/A                                 | No                | 3.1                       | 20/02/2015       |
| 8.1.6                  | Added that a consumption adjustment will also result in a reconciliation  | Internal review | N/A                      | N/A                   | N/A                                 | No                | 3.2                       | 20/03/2015       |
| 8.1.7                  | Added that a read replacing an estimate or a consumption adjustment received for Products 1 and 2 will not result in a reconciliation | Internal review | N/A                      | N/A                   | N/A                                 | No                | 3.2                       | 20/03/2015       |
| 8.5                    | Added clarification & proration rules following receipt of a Check Read.  | PN UNC          | 08/06/2015               | N/A                   | N/A                                 | No                | 3.4                       | 30/06/2015       |
| 8.5.6                  | Clarification that reads cannot be replaced during the period of a re-synch once it has been processed                                | Internal review | N/A                      | N/A                   | N/A                                 | No                | 3.1                       | 20/02/2015       |
| 8.5.9                  | Added that a reconciliation must be processed before re-synch can be processed (REQ14)  | PN UNC          | 15/04/2014               | 15/04/2014            | TBC                                 | Yes               | 3.1                       | 20/02/2015       |
| 8.7                    | Removed options for reconciliation of CSEPs if Mod 0440 had not been approved.  | Mod 0440        | N/A                      | N/A                   | N/A                                 | No                | 3.1                       | 20/02/2015       |
| 8.9                    | Updated as statement incorrect regarding Reconciliation Close Out.  | Internal review | N/A                      | N/A                   | N/A                                 | No                | 3.1                       | 20/02/2015       |

# Reconciliation BRD

|        |  |          |            |            |                |     |     |            |  |
|--------|--|----------|------------|------------|----------------|-----|-----|------------|--|
| 8.14.7 | Updated to reflect that reconciliation for NDM CSEPs will be issued as per GT meter points.                    | Mod 0440 | N/A        | N/A        | N/A            | No  | 3.3 | 15/04/2015 |  |
| 8.16   | Added clarification for Prime & Sub Reconciliation (REQ20)   | PN UNC   | 09/09/2014 | 09/09/2014 | P&S Guidelines | Yes | 3.1 | 20/02/2015 |  |
| 8.17   | Added clarification on reconciliation process following acceptance of a consumption adjustment                 | PN UNC   | 04/11/2014 | 04/11/2014 | TBC            | Yes | 3.2 | 20/03/2015 |  |
| 9.2.3  | Updated the RBD transitional arrangements as the allocation of UG will be over 12 months not based on the MRF. | PN UNC   | 02/04/2014 | 12/05/2014 | TBC            | Yes | 3.3 | 15/04/2015 |  |
| 9.3    | Updated transitional rules for receipt of the first Check Read   | Mod 0487 | N/A        | N/A        | TBC            | Yes | 3.2 | 20/03/2015 |  |

### **2.1.2.2 Intended Audience**

- Xserve
- Gas Shippers/Suppliers
- Gas Transporters (Large and Small)
- Customer Representative

### 3. Executive Summary

#### 3.1 Introduction to the change

This document defines the processes for the reconciliation of energy and transportation commodity charges for gas supply meter points.

The document has been based on presentations and discussions at the Project Nexus Workgroup (PN UNC) and considering the high level principles agreed at the Reconciliation Principle Workgroup in April 2010.

All square brackets:   represent areas for clarification which must be resolved by the Workgroup prior to the business rules being finalised.

#### 3.2 Implementation Timescales

Implementation of the developed solution will be confirmed once all requirements are captured following the Project Nexus Requirements Definition Phase.

#### 3.3 Change Drivers and Business Goals

##### 3.3.1 Drivers

The drivers detailed below are those identified by the Reconciliation Workgroup for the reconciliation of energy and commodity charges;

- To reconcile all MPRN's using actual reads
- To remove the requirement of aggregate reconciliation for Smaller Supply Points (SSP)
- Remove the need for a 'Filter Failure' type process
- Introduce appropriate incentives on Shippers to submit quality reads
- Increase transparency
- Improve accuracy of Shipper costs

##### 3.3.2 Business Goals

To develop a robust regime for the individual reconciliation of energy and commodity for all gas Meter Points.

#### 3.4 Change Background

The changes have been identified as a result of Xserve's Project Nexus consultation for the replacement of UKLink systems and following DECC's consultation on Smart metering and Supplier licence obligation for the installation of advanced meters.



### 3.4.1 Areas Identified in the Initial Requirements Register (IRR)

- Increase scope of individual meter point reconciliation
- Improved filter failures system.
- A review of industry processes for validating invoice charges, support the proposed change to energy validation by amending the USRV filter from a TRE filter to a ZRE filter.

### 3.4.2 Business Issues Raised during the Workgroups

The following issues were raised during the reconciliation workgroups.

- RbD does not incentivise Shippers to submit reads for SSPs as the reads are not used for reconciliation purposes
- Unallocated energy is borne by the SSP market which is a risk for SSP Shippers due to the unknown volume of energy.
- RbD provides Shippers with limited flexibility
- RbD does not provide transparency
- USRVs do not necessarily incentivise Shippers to improve the quality of the read and asset information.

### 3.4.3 UNC Impacts

- UNC Section E (Reconciliation).
- UNC Section F may also be affected (Neutrality Charges).

### 3.4.4 UNC Process Impacts

- Reconciliation processes
- Invoicing calculation and formatting

### 3.4.5 Licence Impacts

### 3.4.6 Interaction with Project Nexus High Level Principles

During the Project Nexus Principle Workgroup the following high level principles were agreed for the reconciliation of energy and transportation charges;

- Preferred option was daily settlement for all sites based on actual daily consumption with reconciliation as an exception process
  - This is still a longer term aspiration for some participants
- Alternative was for daily or periodic reconciliation
- Aspiration to reduce/remove Filter Failures
- Proposal to apply rollover tolerance to reconciliations

The requirements described in this document are aligned to the 'Alternative Approach' from the High Level Principles agreed and the workgroup and are consistent with the requirements from the Settlement Workgroup.

### 3.5 Related Documents

| Document Title   | Location             |
|--|----------------------|
| Reconciliation Principles Workgroup Report<br>(19/05/2010) | Joint Office Website |
| PN UNC Reconciliation Workgroup                            | Joint Office Website |

## 4. Benefits

These will need to be aligned with the Transporters relevant objectives.

### 4.1 Industry Benefits

- 4.1.1 Help ensure that the energy is charged to the right sector
- 4.1.2 Reconcile energy at Meter Point level using actual meter readings rather than aggregated
- 4.1.3 Complement the Meter Reading and Settlement processes
- 4.1.4 Help provides an incentive to submit accurate and timely readings for the SSP sector
- 4.1.5 Provide greater clarity of the volume on un-allocated gas
- 4.1.6 Better link between GT transportation charges and customer charges billed to end consumers by Suppliers
- 4.1.7 Recognise drift on sites (that derive reads) which are currently not picked up in the NDM market
- 4.1.8 Improve transparency by removing RbD
- 4.1.9 Reduce the impact of the NDM allocation processes by introducing meter point reconciliation for SSPs.

### 4.2 Disadvantages

- 4.2.1 Individual Meter Point reconciliation for all sites could significantly increase the number of rejected transactions.
- 4.2.2 Shipper and Xserve processes may need to change to accommodate increased volumes of data.
- 4.2.3 Number of charges will increase the size of the Reconciliation invoice

## 5. Change Scope

### 5.1 In Scope

#### Function:

- Calculation of reconciliation energy
  - Periodic reconciliation
  - Daily reconciliation
- Methodology for adjustment/re-apportionment of un-allocated energy following reconciliation
- Transportation rates applied to the reconciliation quantity
- Calculation of reconciliation charges
- Validation of reconciliation values (Filter Failures)
- Reconciliation rollover tolerances
- Treatment of reconciliation following a re-synchronisation
- Reconciliation close-out
- Re-reconciliation

#### Market Sector:

- All directly connected supply points including Prime and Sub meters
- Daily Metered CSEPs (iGT sites above the DM Mandatory threshold)
- NTS Sites
- NDM CSEPs (~~aspiration for new reconciliation rules to apply to NDM CSEPs~~)

### 5.2 Out of Scope

#### Function:

- Any other transportation invoice or process not included as in-scope
- For clarity the calculation of energy and the allocation methodology is out of scope as this process will be documented in the Settlement Workgroup.
- Retrospective Updates including updates to meter reads after GFD+5
- Preparation, production, issue and timing of the reconciliation invoice

#### Market Sector:

- None identified.

# Detailed Requirements Analysis

## 6. Assumptions and Concerns

### 6.1 Assumptions

- 6.1.1 The business rules will need to be appropriate for dumb metered sites as well as remotely read sites
- 6.1.2 Shippers will submit validated meter readings
- 6.1.3 Continual monitoring to take place of SMIP developments to ensure alignment with parties obligations and DCC services
- 6.1.4 AUGE role will require amending via a Modification following approval of these business requirements.
- 6.1.5 The processes described in the Settlement workgroups are approved
- 6.1.6 Reconciliation is performed at meter point level
- 6.1.7 Reconciliation includes energy and commodity charges.
- 6.1.8 Only those reads that have passed the GT validations will be used for the purposes of reconciliation.
- 6.1.9 All estimated reads will be calculated using a standard methodology, these are described in the 'Meter Read Submission and Processing and Settlement BRD'.
- 6.1.10 These rules will also apply to iGT (CSEP) sites, subject to the appropriate industry governance.
- 6.1.11 There will continue to be Prime & Sub deduct meters.
- 6.1.12 A re-synchronisation will not be required on a 'Smart' meter as reads will not be derived, actual reads will be transmitted.
- 6.1.13 CSEPs above the DM Mandatory threshold will be treated as DM directly connected sites and will be processed under 'Product 1'

### 6.2 Dependencies

- 6.2.1 The processes described within the Settlement Workgroup are unchanged
- 6.2.2 Approval of the requirements by PN UNC
- 6.2.3 Approval by Ofgem following the appropriate UNC Modification process

~~6.2.4 Meter Point reconciliation for NDM CSEP SSPs may require a single Supply Point Register on behalf of all large and small Gas Transporters~~

### 6.3 Risks/Issues

- 6.3.1 There may be opposition to any potential Modifications raised, particularly because not all Shippers/Suppliers/Transporters attend the Workgroups or are represented.

6.3.2 The case for moving away from RbD needs to be justified, looking at costs and benefits of doing so.

6.3.3 In the SSP market meter reads will be used for Reconciliation processes, creating a concern that, without data cleansing and checking, there may be an increase in exceptions.

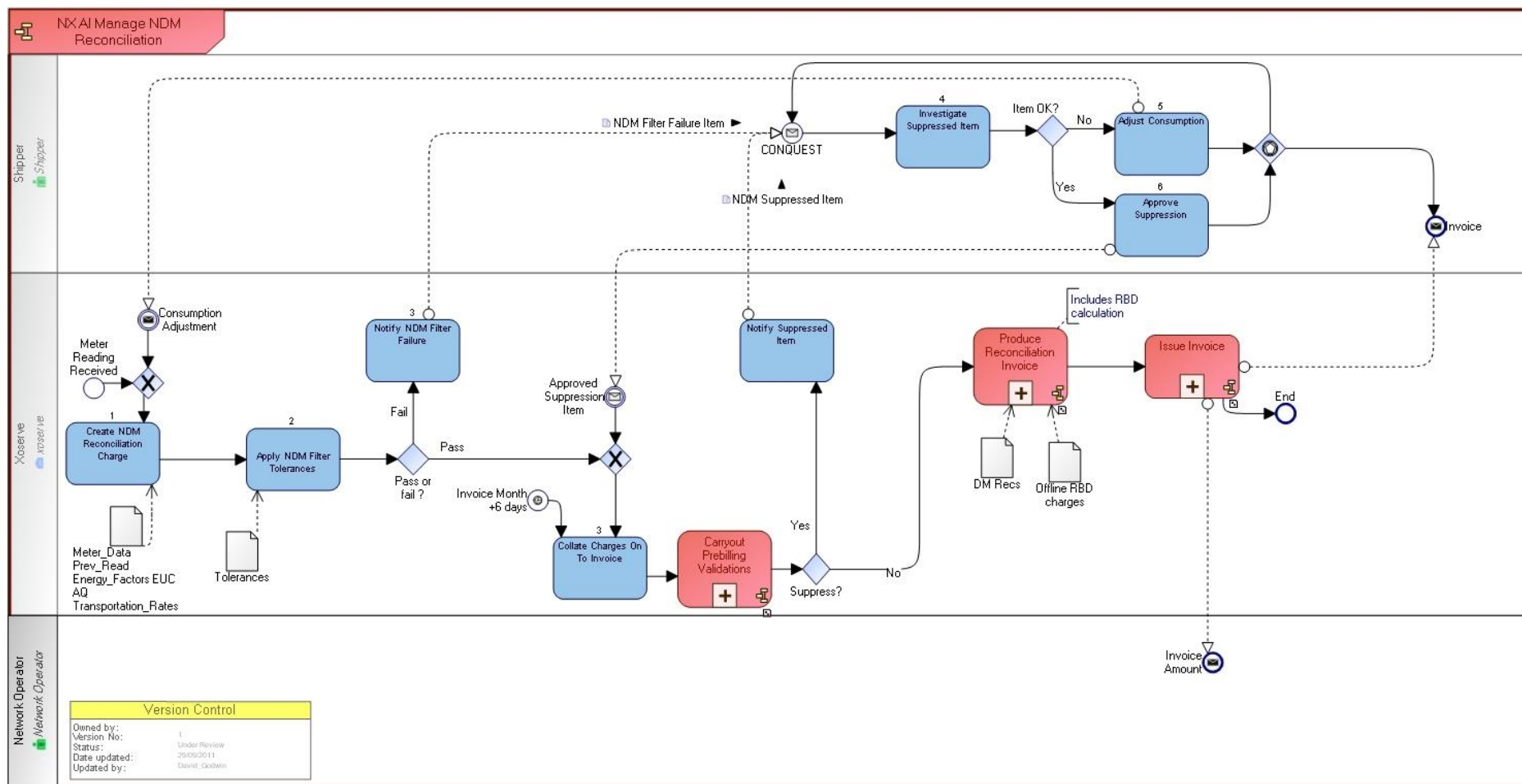
~~6.3.4 If a single Supply Point Register is not achieved, it may not be possible to achieve meter point reconciliation for SSPs on iGT Networks. Alternative approaches are discussed in 8.7 below.~~

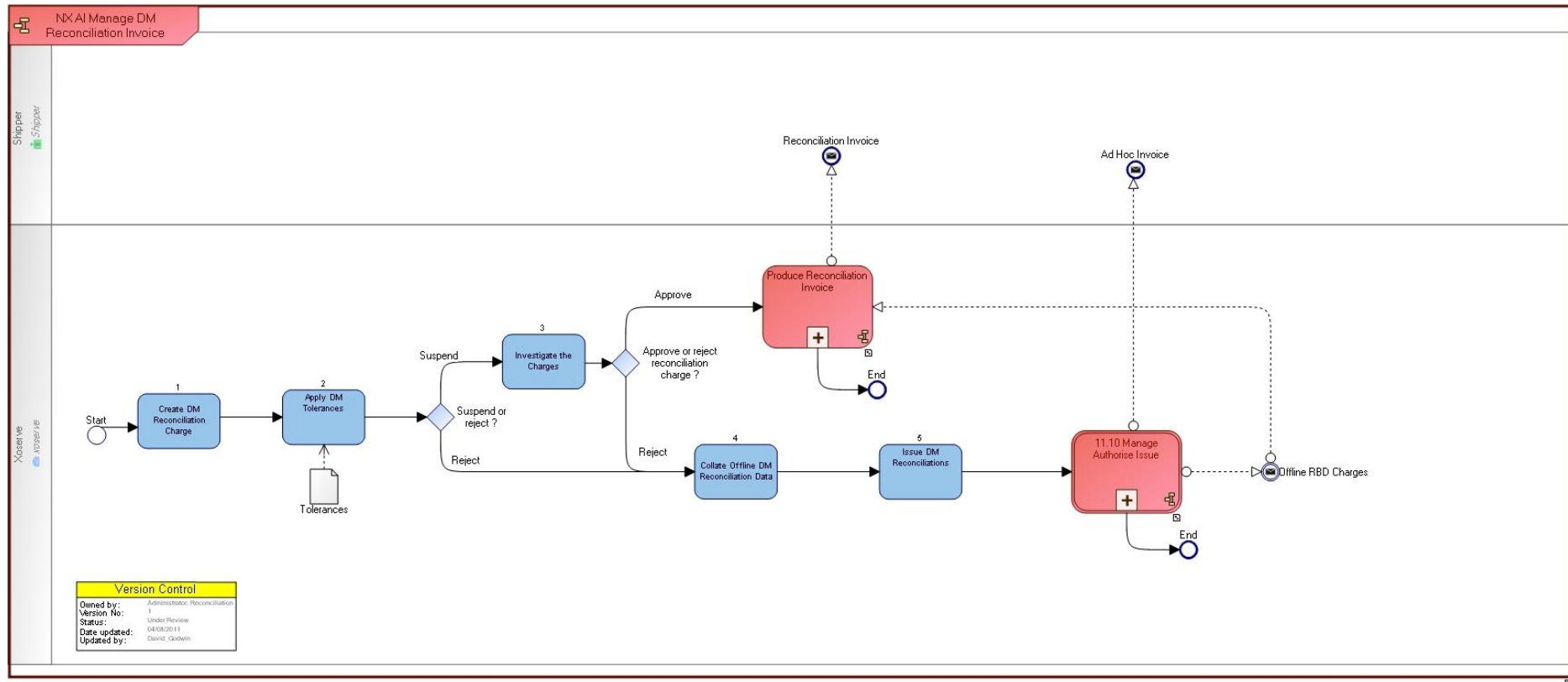
## 6.4 Concerns

One Shipper did not agree with the statement regarding the potential role of the AUGE under the new arrangements, as outlined under section 8.14. PN UNC Workgroup agreed the AUGE role will change and will need to be reviewed at a later stage by UNC Distribution Workgroup or other relevant forum.

## 7. Business Processes

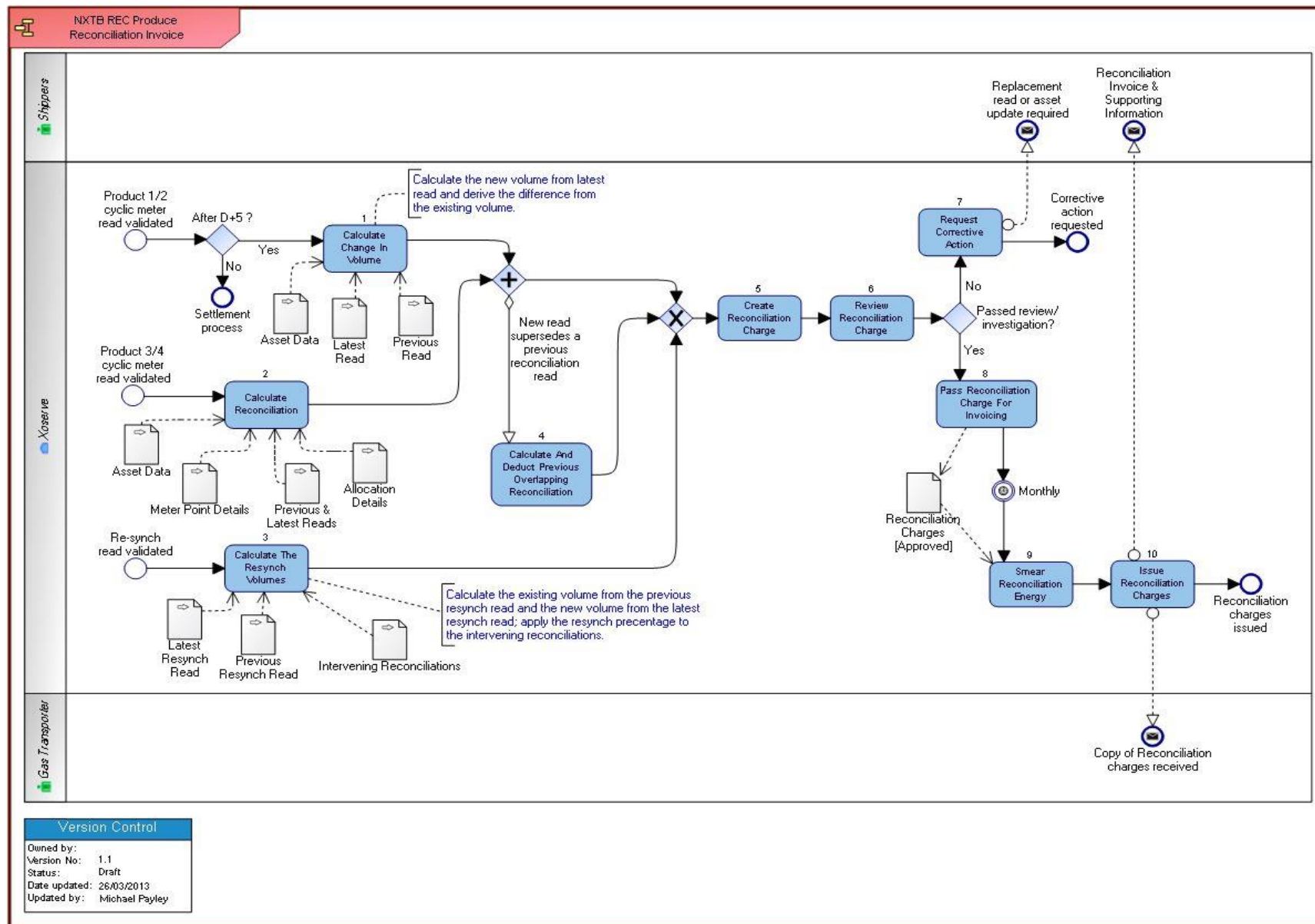
### 7.1 Current Processes and Process Maps







## 7.2 To-Be Processes and Process Map



## 8. Business Requirements

Throughout this section reference is made to four new processes designed in the Project Nexus Settlement Workgroup for the submission and processing of meter readings and settlement arrangements. These four future state processes are summarised below;

- Product 1, 'Daily Metered Time Critical'
  - Daily reads obtained and submitted by the DMSP daily before 11.00 am on GFD+1
  - The reads, actual or GT estimate, will be submitted to the Shipper
  - The latest read loaded at GFD+5 will be used for allocation and energy balancing purposes.
- Product 2, 'Daily Metered Not Time Critical'
  - Daily reads obtained and submitted to the GT daily.
  - If the reads are submitted before 11.00 am they will be used for allocation purposes otherwise a read must be received before end of the GFD+1.
  - Actual reads will be submitted by the Shipper
  - The latest read loaded by GFD+5 will be used for final allocation and energy balancing purposes.
- Product 3, 'Batched Daily Readings'
  - Daily readings are obtained for each day but are not submitted daily
  - The daily reads are received in batches to a pre-notified frequency
  - Actual reads will be submitted within the batch by the Shipper
  - Reconciliation will be based on the daily reads received
  - Allocation and energy balancing is based on allocation profiles and AQ
- Product 4; 'Periodic Readings'
  - An actual meter reading is submitted periodically.
  - Reconciliation is carried out using the methodology determined within the Reconciliation Workgroup
  - Allocation and energy balancing is based on the allocation profiles and AQ

## 8.1 General Reconciliation Principles

- 8.1.1 Reconciliation charges for the difference between original (initial) daily energy measurements and actual measurements based on a meter reading.
- 8.1.2 Re-reconciliation charges for the difference between the latest measurements (reads) not the original.
- 8.1.3 Reconciliation charge can be a positive or a negative value
- 8.1.4 Each individual reconciliation will consist of;
  - An energy charge calculated using daily CV values and daily SAP process for each day in the reconciliation period
  - Transportation commodity charges calculated using the relevant price(s) for each gas day in the rec period. Transportation commodity includes NTS Exit Commodity and LDZ Commodity (and / or any new commodity charge introduced in the future).
- 8.1.5 In exceptional circumstances, for example due to unusual trends in SAP prices, a reconciliation with a positive energy quantity may have a negative energy financial value or vice versa.
- 8.1.6 Meter reads that will trigger a reconciliation are;
  - Actual meter reading (including derived reads)
  - Customer reading
  - Read obtained from a 'Must Read'
  - Transfer read, either estimated or actual or a Shipper Agreed Read (SAR)
  - Check Read
  - Re-synch reads to account for the drift between Check Reads
  - Meter removal read
  - Consumption adjustment
- 8.1.7 Meter reads that will not trigger a reconciliation are;
  - Estimated reads except an estimated transfer read
  - Meter installation read
  - For Products 1 and 2, a read replacing an estimate or a consumption adjustment received and processed before Exit Close Out (GFD+5)

## 8.2 Periodic Reconciliation for Product 4: Periodic Readings

Periodic reconciliation is designed for sites within Product 4: 'Periodic Readings' where an actual meter reading is submitted periodically to the GT for the purposes of reconciliation.

Periodic reconciliation will use the same principles and methodology as the existing NDM LSP Reconciliation principles (TPD Section E6.2) which is summarised below.

- 8.2.1 On receipt of a valid reading the GT will perform reconciliation from the date of the preceding reconciliation reading, or the transfer reading where applicable, up to and including the date of the current reading.
- 8.2.2 Reconciliation process compares the energy oftaken using the actual meter reads to the energy allocated by the GT.
- 8.2.3 The reconciled energy is apportioned using the same 'profile' as the allocation model (see Figure 1 & 2)
- 8.2.4 Reconciliation quantities will be calculated as follows;
  - Calculate a Reconciliation Factor (RF) for the period as Actual Volume/ Allocated Volume.
  - Reconciliation Energy = RF \* Allocated Energy.
- 8.2.5 Reconciliation is performed at meter point level, not aggregated.

## 8.3 Daily Reconciliation for Product 1 and 2: Daily Metered

Daily reconciliation is designed for Products 1 & 2 where daily reads are submitted to the GT after close out (GFD+5) following receipt of an actual meter reading following a GT estimated reading

- 8.3.1 On receipt of a valid reading the GT will perform reconciliation for each gas day since the last actual read date up to and including the date of the current reading
- 8.3.2 Reconciliation process compares the energy oftaken using the latest meter read(s) to the estimated energy allocated for the gas day.
- 8.3.3 The reconciled energy is apportioned using the same 'profile' as the allocation model (see Figure 2).
- 8.3.4 Reconciliation quantities will be calculated as follows;
  - Calculate daily actual volume as RF x Allocated Volume.
  - Daily Reconciliation volume = daily actual – daily allocated volume.

## 8.4 Daily Reconciliation for Product 3: Batched Daily Readings

Product 3 sites are allocated energy daily by the GT. The Shipper will submit a batch of actual daily reads to the GT for reconciliation purposes.

Section 8.4.1 to 8.4.3 describes the treatment of the reconciliation of energy using the daily reads received and reconciling to the daily energy allocated by the GT.

8.4.1 For each valid read submitted to the GT within a batch of reads, the energy will be compared to the allocated energy for the day (GFD).

8.4.2 The difference, positive or negative, will be used to calculate the reconciliation value for each day.

8.4.3 Reconciliation quantities will be calculated as follows;

- Calculate daily actual volume as  $RF \times \text{Allocated Volume}$
- Daily Reconciliation volume = daily actual – daily allocated volume

Section 8.4.4 to 8.4.8 describes the treatment of energy for missing read days where either a read has not been submitted for a day or the read has been rejected within a batch of reads.

8.4.4 The GT will perform reconciliation from the date of the preceding reconciliation reading, or the transfer reading where applicable, up to and including the date of the current reading.

8.4.5 Once a Reconciliation has been processed (see Section 8.9) reads can not be inserted for missing or rejected reads

8.4.6 Reconciliation process compares the energy oftaken using the latest meter read(s) to the estimated energy allocated.

8.4.7 The reconciled energy is apportioned using the same 'profile' as the allocation model (see Figure 2).

8.4.8 Reconciliation quantities will be calculated as follows;

- Calculate daily actual volume as  $RF \times \text{Allocated Volume}$ .
- Daily Reconciliation volume = daily actual – daily allocated volume.

## 8.5 Reconciliation following a Re-synch, all Products

As a result of a Check Read where equipment is fitted to the meter that derives the reads via pulses from the meter, there will be a requirement for a periodic resynchronisation to be carried out to align the read on the equipment with the read on the meter. Any variance in the reads is known as 'drift'. This section describes the methodology to attribute the drift to the relevant period of the drift, that is between the last re-synch read (or when the equipment was installed) to the current re-synch read. A re-synch can be carried out at any time.

8.5.1 The drift is apportioned using the same 'profile' as the allocation model; the energy is apportioned in line with the original (or latest reconciled) value of recorded energy (see Figure 1 & 2).

8.5.2 This methodology will be applied to all sites where drift has been identified following a re-synchronisation.

8.5.3 Where there has been a change of Shipper during the re-synch period the energy from the drift will be attributed to the Incoming Shipper from the transfer date as per existing UNC rules (see Figure 3). Existing processes between Shippers outside of UNC will continue to apply to agree any energy and charges owing pre transfer of ownership (described further under Section 8.12)

8.5.4 Reconciliation quantities will be calculated as follows;

- Calculate a Reconciliation Factor (RF) for the period as Re-synch Volume/ Previous Volume.
- Calculate re-synch volume as RF x Previous Volume.
- Daily Reconciliation volume = daily resynch volume – previous daily volume.

8.5.5 Proration Rules for a Product 1 & 2;

- Calculate the volume for the Check Read period (A)
- Calculate the total prevailing volume between the two reads by summing the prevailing consumptions between reads (B)
- Identify the prevailing volume for each day (C)
- Calculate the new prevailing volume for the day as:

$$\text{Revised volume} = (C/B) \times A$$

8.5.5.6 Proration Rules for a Product 3 & 4;

8.5.5.5 Calculate the volume for the Check Read period (A)

8.5.5.5 Calculate the total prevailing volume between the two reads by summing the prevailing consumptions between reads (or where no reconciliation has taken place this will be the allocated energy) (B)

8.5.5.5 Identify the prevailing volume for the period (C)

- Calculate the new prevailing volume for the period as:

$$\text{Revised volume} = (C/B) \times A$$

8.5.7 All energy will be reconciled and the associated reconciliation charges will be included on the invoice and not rolled over to a subsequent invoice

8.5.8 Once a re-synch has been processed, reads within the period of the re-synch cannot be replaced.

8.5.9 For Products 3 and 4, following receipt of a Check Read where 'drift' has been identified, the re-synch will not be processed and will be held until M+10 when

Reconciliation is processed reconciling the difference between allocated and actual energy.

~~8.5.58.5.10~~ For Products 1 and 2, Check Reads must be received before Close Out (GFD+5).

~~8.5.58.5.11~~ On receipt of the following read type, the read will be treated as a Check Read;

~~8.5.5~~ ■ Check Read

~~8.5.5~~ ■ Meter or Convertor Installation

~~8.5.5~~ ■ AMR installation

~~8.5.5~~ ■ Shipper transfer read (opening reading)

~~8.5.5~~ ■ By-pass closing read

~~8.5.58.5.12~~ A Check Read period is triggered by any of the reads in 8.5.9 to the following read types;

~~8.5.5~~ ■ Previous Check Read

~~8.5.5~~ ■ Meter or Convertor installation

~~8.5.5~~ ■ AMR installation

~~8.5.5~~ ■ Shipper transfer read (opening reading)

~~8.5.5~~ ■ By-pass closing read

**Figure 1**

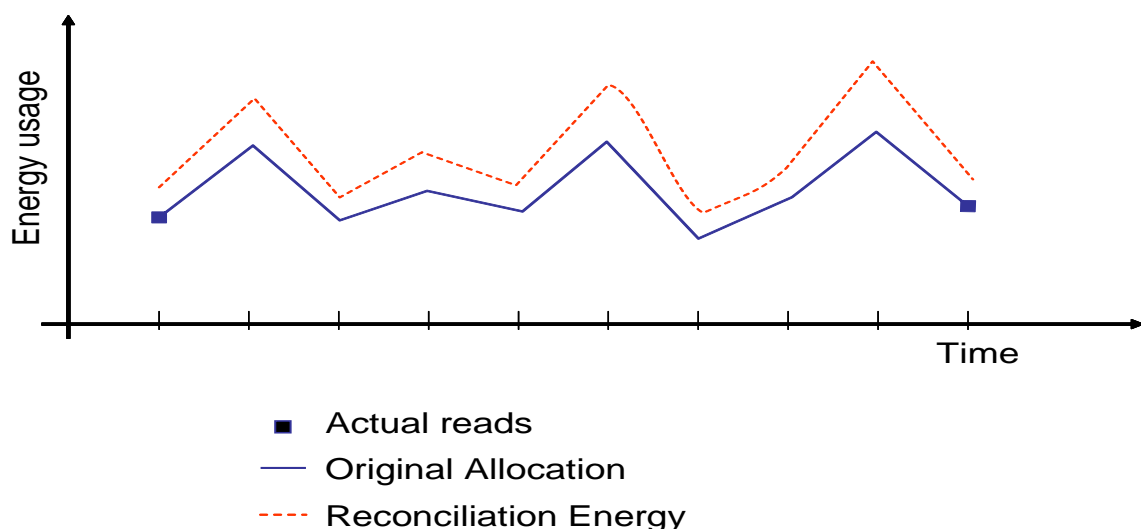


Figure 2

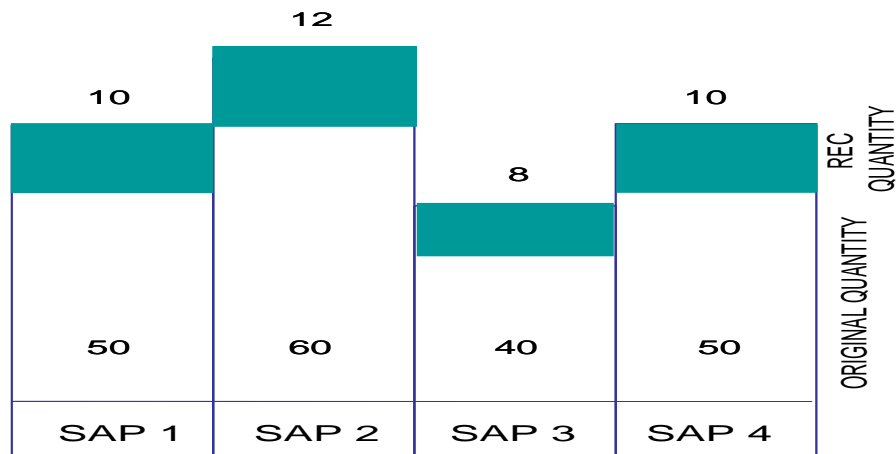
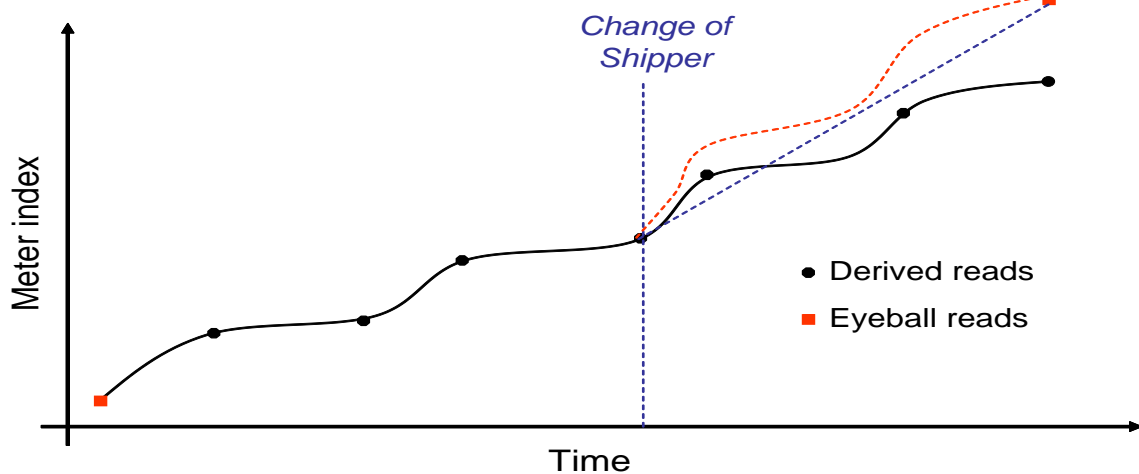


Figure 3



## 8.6 Re-Reconciliation

A re-reconciliation would be triggered following receipt of a read(s) **or consumption adjustment** after a previous read has already been processed for the same day/period and reconciled.

- 8.6.1 The methodology applied would be the same as the process applied for the original reconciliation except;
- 8.6.2 The process would use the previously reconciled read and energy to carry out the re-reconciliation not the original read and energy.
- 8.6.3 The reconciliation period could be for a longer period than the original reconciliation.
- 8.6.4 The circumstances of when a re-reconciliation will occur will be covered under the Retrospective Updates Workgroup and documented in the Retrospective Updates BRD.



8.6.5 A Re-reconciliation will create a new latest energy position

## 8.7 NDM CSEP Reconciliation

NDM CSEP will be subject to individual Meter Point Reconciliation.

~~If the aspiration for NDM SSP CSEPs to be subject to meter point reconciliation is not achieved, e.g. due to lack of a single Supply Point Register, a fall back arrangement will be required.~~

~~Alternative options were presented at PN UNC Workgroup on 24 October 2011, having been identified at an earlier meeting. The two most viable options were:~~

- ~~▪Option A: No Meter Point Reconciliation for SSP on CSEPs—sites attract a share of Reconciliation Neutrality only (in proportion to original allocation). Meter readings are not used by the GT for individual reconciliation purposes.~~
- ~~▪Option B: Reconciliation on AQ, for every AQ change. Following an AQ change, the iGT advises Xserve of old and new AQ for each individual affected sites, with applicable start dates and applicable Shippers. The difference in AQ billed as a change to allocation, split between applicable Shippers. This would be a separate process to LMN AQ updates, which would still take place. It may be difficult to cross-check the listing of amended AQs to the regular LMN AQ updates.~~

~~For the longer term, if a Single Supply Point Register is still not possible, Option E (where each NDM CSEP SSP becomes an individual Logical Meter Number for allocation, system balancing and reconciliation purposes) may be considered.~~

~~Further details of these options and the other alternatives can be found in the presentation material.~~

## 8.8 Unidentified Gas Reconciliation (Smear)

The 'Unidentified Gas' smear shares out unidentified energy each day to Shippers based on their Closed Out allocations (at GFD+5). Reconciliation changes the amount of un-identified energy, either increase or de-creases the value therefore a further sharing out of the energy following a reconciliation must take place in order to balance to the total LDZ energy offtaken. The Unidentified Gas Reconciliation therefore amends the share of unallocated energy to Shippers.

- 8.8.1 Following a reconciliation calculation and its inclusion on an invoice, the value of un-identified energy is re-calculated and shared between Shippers.
- 8.8.2 The value can be a positive or a negative value.
- 8.8.3 The recalculation of un-identified energy is calculated monthly and based on the latest measurements at the time of the calculation
- 8.8.4 All Unidentified Gas Reconciliations are shared out across the preceding 12 month shares of latest consumption.

- 8.8.5 The adjustment is billed at LDZ and Shipper level and applies to relevant sites within the LDZ based on the Factor used to calculate the amount of unidentified gas at GFD+5 (Allocation).
- 8.8.6 The charges applied will be energy only, commodity will not be charged. Note; this was discussed and agreed at DNCMF

## 8.9 Reconciliation Charge Cut Off

For the purposes of Reconciliation for ~~all Meter Points in Products but particularly~~ Product 3, to ensure re-reconciliations are not carried out after a reconciliation has been processed;

- 8.9.1 Reconciliation charge creation cut off will be on Month +10 calendar days
- 8.9.2 All reads ~~for the previous calendar month~~ received by M+10 calendar days will be included in the monthly Reconciliation invoice
- ~~8.9.3 After M+10 calendar days only reads processed can be replaced, any reads received will be treated as a replacement read.~~
- ~~8.9.4~~ 8.9.3 For Class 3 Meter Points, ~~p~~Previously missing or rejected reads can not be inserted after M+10 calendar days and will be rejected

Note: This will supersede the requirement for 40 calendar days read submission for Product 3 ~~and 25 calendar days for Product 4.~~

## 8.10 Validation of Reconciliation Values (USRV/Filter Failures)

- 8.10.1 At read receipt validations will be carried out by the GT on the read. The details of the validations on the read are covered under the Settlement BRD.
- 8.10.2 There may be a need for Xserve to suppress charges from the invoice, for example following an update to data which would trigger a re-reconciliation in which case a validated read has not initiated the Rec charge.
- 8.10.3 Charges not triggered by a read, e.g. consumption adjustment / asset change will still need to be validated, to prevent erroneous charges. The read validation tolerances described in the Settlement BRD can be applied to the energy values generated by those adjustments/amendments, prior to the charge being issued. If the initial tolerances are breached, the transaction can be re-submitted and processed. However, the 'Market Breaker' tolerances can not be overridden.

## 8.11 Rollover Tolerances

- 8.11.1 All energy will be reconciled and the associated reconciliation charges will be included on the Reconciliation invoice and not rolled over onto subsequent invoices.

## 8.12 Reconciliation ‘Line in the Sand’

8.12.1 A reconciliation period will not go back further than the ‘Line in the Sand’ principles as per UNC. The start read may be before ‘Line in the Sand’ but the billed reconciliation period will not be before this date.

## 8.13 Change of Shipper during Reconciliation Period following a Resynch.

8.13.1 Energy will be calculated from the latest Resynch read to the previous Resynch read, or last actual read as per Section 9.

8.13.2 The appropriate charges will be invoiced to the Registered Shipper as per existing UNC rules.

8.13.3 A re-synch at transfer of ownership would mitigate the risk to the Incoming Shipper.

8.13.4 In all other transfer scenarios there will be a transfer read (either actual or estimated) which will close out the Outgoing Shippers position.

## 8.14 Reconciliation Communication

The read communication will include, but is not limited to, the following data items; ~~The~~ the following data is based upon the current reconciliation file formats;

8.14.1 Products 3 and 4: Primary Reconciliation Record (i.e. first instance in file)

- Meter Point Reference
- Confirmation Number
- Shipper provided reference number (if applicable)
- Meter Serial Number
- Meter details:
  - Meter model
  - Number of dials
  - Correction factor
  - Read factor
- Converter details
  - Where applicable, same details as for meter
- Start meter read: date, reason and reading
- End meter read: date, reason, type and reading
- End meter read reference (system generated)
- Converter start and end reads
- Volume consumed (m<sup>3</sup>)
- Variance period start date
- Variance period end date and reason
- Allocated volume – m<sup>3</sup> (for variance period
- Allocated energy – kWh (for variance period
- Actual energy – kWh (for variance period
- Reconciliation quantity (kWh)
- Through the zeros count (“round the clock indicator”)
- LDZ
- Meter point AQ, SOQ, EUC (for variance period)

- Charge type
- Amount (£)
- Invoice number
- Charge status
- Current month indicator
- Original read reference, previous invoice number and amount (re-recs and adjustments only)

#### 8.14.2 Products 3 and 4: Subsidiary Reconciliation Records (second and subsequent records)

- Meter Point Reference
- Confirmation Number
- Shipper provided reference number (if applicable)
- Meter Serial Number
- End meter read reference (system generated)
- Variance period start date
- Variance period end date and reason
- LDZ
- Charge type
- Amount (£)
- Invoice number
- Charge status
- Current month indicator

#### 8.14.3 Products 1 and 2: Daily Metered Reconciliation Records

- Meter Point Reference
- Confirmation Number
- Charge date
- Original quantity (kWh)
- New quantity (kWh)
- Reconciliation quantity (kWh)
- LDZ
- Charge rate
- Charge type
- Amount (£)
- Invoice number
- Charge status

#### 8.14.4 Reconciliation following a Re-Synch Records

- Meter Point Reference
- Confirmation Number
- Shipper provided reference number (if applicable)
- Meter Serial Number
- Meter details:
  - Meter model
  - Number of dials
  - Correction factor
  - Read factor

- Converter details
  - Where applicable, same details as for meter
- Start meter read: date, reason and reading
- End meter read: date, reason, type and reading
- End meter read reference (system generated)
- Converter start and end reads
- Volume consumed (m<sup>3</sup>)
- Variance period start date
- Variance period end date and reason
- Allocated volume – m<sup>3</sup> (for variance period
- Allocated energy – kWh (for variance period
- Actual energy – kWh (for variance period
- Reconciliation quantity (kWh)
- Through the zeros count (“round the clock indicator”)
- LDZ
- Meter point AQ, SOQ, EUC (for variance period)
- Charge type
- Amount (£)
- Invoice number
- Charge status
- Current month indicator
- Original read reference, previous invoice number and amount (re-recs and adjustments only)

#### 8.14.5 Products 3 and 4 Subsidiary Reconciliation Records (second and subsequent records)

- Meter Point Reference
- Confirmation Number
- Shipper provided reference number (if applicable)
- Meter Serial Number
- End meter read reference (system generated)
- Variance period start date
- Variance period end date and reason
- LDZ
- Charge type
- Amount (£)
- Invoice number
- Charge status
- Current month indicator

#### 8.14.6 Unidentified Gas Reconciliation Charges

- Charge month
- LDZ
- Reconciliation source/sector (if applicable)
- Charge type
- Quantity (kWh)
- Amount (£)
- Total LDZ (UDQOs)
- Shipper LDZ (UDQOs)

- Shipper % share
- Reconciliation neutrality quantity (kWh)
- Reconciliation neutrality amount (£) – for each charge type if applicable

#### 8.14.7 NDM CSEP

Reconciliation communications for NDM CSEPs will be **issued with reconciliations for GT meter points. dependent on how meter point reconciliation is achieved for these meter points.**

### 8.15 Allocation of Unidentified Gas Expert (AUGE)

The AUGE currently determines an annual amount of energy to be borne by DM and NDM LSP sites and transferred from the RbD sector. The introduction of an industry wide energy smear (Unidentified Gas) will supersede the current RbD arrangements. The AUGE's role will need to change as a result. The future role of the AUGE will be discussed in the Distribution Workgroup once the analysis on the new regime has completed.

### 8.16 Primes and Subs

8.16.1 Reconciliation needs to take place on Prime meter points using co-terminus reads from sub meter points.

8.16.2 Where the Prime and Sub meter points are in Product 1 or 2 Reconciliation is only required where estimated reads are replaced with actual reads after Exit Close Out or a consumption adjustment is received after Exit Close Out. In this case the updated consumption is used to re-calculate the energy for all the meter points within the P&S configuration and Reconciliation is performed.

8.16.3 Where the Prime and Sub or just the Subs are in Product 3 or 4 the allocation for the Prime is based on an estimated position (demand estimation formula for Products 3 and 4) therefore co-terminus actual reads are required for all the meter points to reconcile the Prime meter point.

8.16.4 A co-terminus read will be requested by the GT for Prime or Subs in Product 4 only based on the Meter Read Frequency; monthly or annually, as daily reads for Products 1, 2 & 3 will have been received.

8.16.5 Where Check Reads are carried out for all the meter points within the configuration a further reconciliation will be carried out to apportion the drift over the required period. Note: Where derivable equipment is installed on 1 or more of the meter points an actual read will be required for all other meter points with non-derivable equipment in order to reconcile correctly.

### 8.17 Submission of a Consumption Adjustment

8.17.1 A Consumption Adjustment can be submitted for the following reasons;

- By-Pass: The Consumption Adjustment must be submitted for the total corrected volume for the period of the By-Pass, between the By-Pass Open Date & By-Pass Close Date.

- Theft of Gas: The start and end date of the theft period needs to be aligned to meter readings held on the system. The consumption adjustment to be the total corrected volume covering the period of the theft.
- Daily Read Error: Daily Consumption Adjustment to be submitted for the total corrected volume
- Faulty Asset: The total corrected volume for the period of the fault
- Twinstream Meters: The corrected total aggregated volume (all meters in the arrangement) to be provided.

8.17.2 The period of the consumption adjustment must align to meter reads held on the system.

8.17.3 The consumption adjustment will be subject to the Market Breaker tolerance.

8.17.4 Following acceptance of the consumption adjustment a reconciliation will take place using the energy calculated from the consumption adjustment for the period which will replace the energy calculated previously from the reads from the same period.

8.17.5 The energy will be apportioned using the same profile as the original allocation:

8.17.5.1 For Products 1 and 2 this is based on the daily energy

8.17.5.2 For Products 3 and 4 this is based on the demand estimation methodology for the Supply Meter Point.

## 9. Transitional Rules

Transitional rules are required to deal with the period immediately before and after the implementation of these rules.

### 9.1 Meter Point reconciliation for Smaller Supply Points

- 9.1.1 After the implementation date, Smaller Supply Points will be subject to meter point reconciliation.
- 9.1.2 The first reconciliation will be treated consistently with existing UNC rules which apply when an SSP moves to LSP and becomes subject to Meter Point Rec.
- 9.1.3 The first meter read submitted after the implementation date will trigger a reconciliation back to the previous valid (billable) meter reading.
- 9.1.4 Only the portion relating to days on and after the implementation date will be issued on a reconciliation invoice.
- 9.1.5 The reconciliation will be divided into two variances and the first variance will be treated as being subject to RbD.
- 9.1.6 It should be noted that this approach will mean that SSPs will have a later (i.e. more recent) effective "Line in the Sand" date than LSP for a transitional period. I.e. reconciliations and other energy adjustments will only go back to the implementation date rather than to any line in the sand, if earlier. This scenario will persist until the Line in the Sand date catches up and passes the implementation date.

### 9.2 Reconciliation by Difference (RbD)

After the implementation date of Meter Point reconciliation, Smaller Supply Points (SSP) will be subject to meter point reconciliation and not RbD. However, for days prior to the implementation date, RbD will still apply.

- 9.2.1 Large Supply Point reconciliations for days prior to the Implementation date will be calculated as normal i.e. from the latest read to the previous read and the reconciliation charges pre and post implementation will be invoiced.

A methodology is required to share the unidentified energy which spans over pre & post implementation following a read received after implementation of meter point reconciliation.

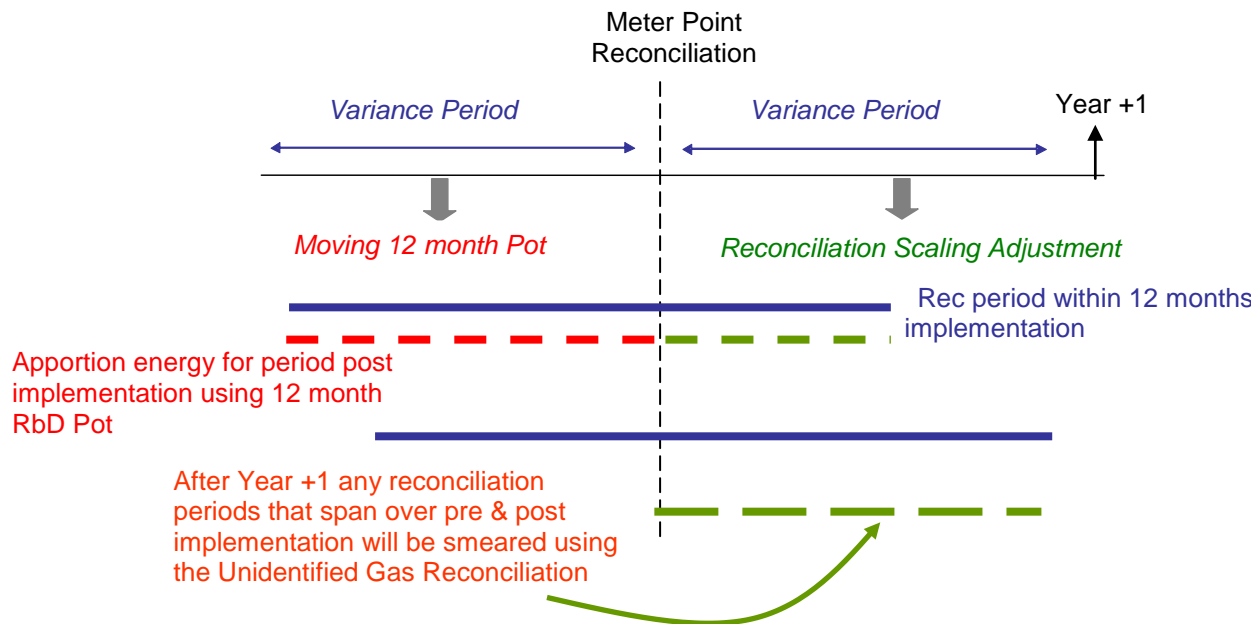
The following arrangements for transition from RbD to meter point reconciliation were agreed at PN UNC on 4<sup>th</sup> September 2012.

- 9.2.2 A 12 month 'Moving Pot' which rolls on for 12 months after Meter Point reconciliation is implemented. The adjustment is applied over the 12 month period of months ending with, and including, the Reconciliation Billing Period.

~~9.2.3 Reconciliation periods pre Meter Point Reconciliation implementation will be aligned to monthly 'pots' based on meter read frequency as per existing RbD methodology (i.e. 1, 6 & 12 month pot).~~



9.2.49.2.3 After 12 months all reconciliation periods will follow the Unidentified Gas Reconciliation mechanism.



## 9.3 Resynchronisation

### 9.3.1 Product 1-43 sites

- ~~After the implementation date, sites in Products 21-43 will supply daily reads (either within or after D+5).~~ Where the reads ~~are~~ submitted are derived from the meter reading equipment rather than taken directly from the index of the meter, there will be an opportunity for drift to arise ~~between the meter and the reading equipment.~~ Transitional rules are required to ensure that differences arising on the first resynchronisation ~~where the meter point was previously NDM~~ are treated equitably.
- Sites which were previously ~~DM daily metered~~ – at the first resynchronisation after the implementation date, treat the resynch energy as arising over the period back to the last DM ~~resynch~~ Check Read.
- Sites which were previously NDM; ~~— can only be transferred to Product 1, 2 or 3 after the implementation date.~~
  - The Shipper will submit a notification that derivable equipment (AMR) is installed. The date of the update will set the anniversary date of future Check Reads.
  - A “~~Check Read~~ Resynch Start date” will apply whereby an actual valid read closest to the ~~AMR installation implementation~~ date (either before or after) will be used to reconcile the drift back to ~~following receipt of the first Check Read (see Figure 5).~~

- Subsequent Check Reads will reconcile back to the previous Check Read.

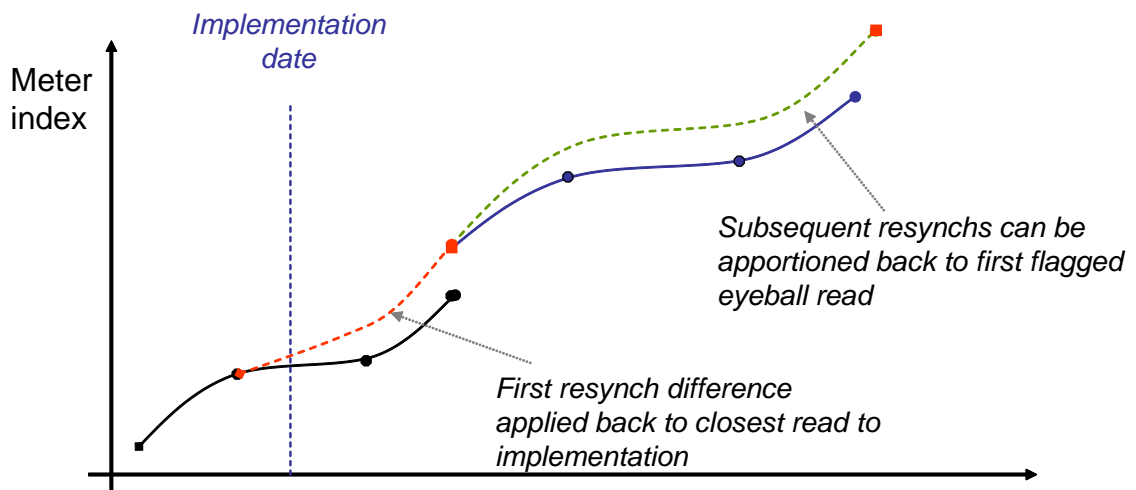
### 9.3.2 Product 4 sites

- After the implementation date, sites which were previously NDM which are transferred to Product 4 and require a resynchronisation a process is required for the energy determined as drift be apportioned.
- Transitional rules are required for Product 4 sites for any resynch energy identified at the first resynch.
- A "Resynch Start date" will apply whereby an actual valid read closest to the implementation date (either before or after) will be used to reconcile the drift back to (see Figure 5).

### 9.3.2 Products 3 & 4

- Following receipt of a Check Read where 'drift' has been identified, the resynch will not be processed and will be held until M+10 when Reconciliation is processed reconciling the difference between allocated and actual energy.

Figure 5



"Resynch start date" is closest read to implementation date (before or after)

- Derived reads
- Eyeball reads = Resynch



## 10. Non-Functional Business Requirements

### 10.1 Parameters

There are some parameters within the requirements that still require agreement. These are shown in square brackets [ ]. These values, and any other values, should not be 'hard coded' and should be set as a parameter value. These values may need to be clarified for the design and development phases.

## 11. Appendices

None

## 12. Document Control

### Version History

| Version | Status               | Date       | Author(s) | Summary of Changes  |
|---------|----------------------|------------|-----------|---|
| 0.1     | Draft                | 20/05/2011 | Xoserve   | First draft   |
| 0.2     | Draft                | 21/06/2011 | Xoserve   | Updated following the PN UNC Workgroup on the 21 <sup>st</sup> June 2011.     |
| 0.3     | Draft                | 03/08/2011 | Xoserve   | Updated following the PN UNC Workgroup on the 2 <sup>nd</sup> August 2011     |
| 0.4     | Draft                | 22/08/11   | Xoserve   | Updated following the PN UNC Workgroup on the 22 <sup>nd</sup> August 2011    |
| 0.5     | Draft                | 28/09/11   | Xoserve   | Updated following PN UNC Workgroup meeting on 19 <sup>th</sup> September 2011 |
| 0.6     | Draft                | 28/10/11   | Xoserve   | Updated following PN UNC Workgroup meeting on 24 <sup>th</sup> October 2011   |
| 0.7     | Draft                | 22/11/11   | Xoserve   | Updated following PN UNC Workgroup meeting on 22 <sup>nd</sup> November 2011  |
| 1.0     | Baselined            | 24/11/11   | Xoserve   | Approved version including updates agreed at 22/11/2011 PN UNC                |
| 1.1     | Draft                | 07/03/2013 | Xoserve   | Incorporates changes agreed at PN UNC   |
| 1.2     | Updated for approval | 02/04/2013 | Xoserve   | Updated process maps  |
| 2.0     | Baselined            | 07/05/2013 | Xoserve   | Baselined version of 1.2  |
| 2.1     | Updated for approval | 07/10/2013 | Xoserve   | Removed all square brackets   |
| 2.2     | Updated for approval | 25/10/2013 | Xoserve   | Updated to reflect changes for the Unidentified Gas Reconciliation            |

|     |                      |            |         |   |
|-----|----------------------|------------|---------|---|
| 3.0 | Updated for approval | 25/10/2013 | Xoserve | Baselined & clean version of 2.2  |
| 3.1 | Updated for approval | 20/02/2015 | Xoserve | Updated to reflect UNC legal text for Modification 0432 and changes as agreed at PN UNC.                |
| 3.2 | Updated for approval | 20/03/2015 | Xoserve | Updated to reflect change to the table in Section 2.1 agreed at PN UNC and changes as agreed at PN UNC. |
| 3.3 | Updated for approval | 15/04/2015 | Xoserve | Corrected references & updates re reconciliation for NDM CSEPs following approval of Mod 0440           |
| 3.4 | Updated for approval | 28/06/2015 | Xoserve | Added clarification regarding apportionment of drift following a Check Read                             |
| 3.5 | Updated for approval | 07/07/2016 | Xoserve | Corrected references in section 2.1   |
| 3.6 | Updated for approval | 19/11/2016 | Xoserve | Updated to confirm whether update required legal text change.   |

### Reviewers

| Name   | Version | Date |
|--------|---------|------|
| PN UNC | All     |      |

### Approval

| Name   | Role     | Date |
|--------|----------|------|
| PN UNC | Approver |      |