

Business Requirements Definition

for

Project Nexus

Submitted to

Project Nexus Workgroup Reconciliation

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1. Glossary

Term / Acronym	Definition
Allocation Scaling Adjustment	Methodology for sharing out un-allocated energy to Shippers after the gas day
CV	Caloric Value
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.
Resynchronise / Resynchronisation / Resynch	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
SAP	System Average Price

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 version of the document contains draft business rules for the different options identified by the Reconciliation Workgroup regarding reconciliation processes. These options have been documented for further discussion and clarification at the Workgroup.

2.1. Intended Audience

- Xoserve
- Gas Shippers/Suppliers
- Gas Transporters
- 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 all [directly connected gas meter points].

The document has been based on presentations and discussions at the Project Nexus Reconciliation Workgroup and considering the high level principles agreed at the Reconciliation Principle Workgroup in April 2010. The options have been documented for further discussion and clarification. All areas within the document are yet to be agreed and finalised.

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 Xoserve'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 UNC Impacts

3.4.3 UNC Process Impacts

3.4.4 Licence Impacts

3.4.5 Interaction with Project Nexus High Level Principles

- 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 (19/05/2010)	Joint Office Website

4. Benefits

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

4.1 Industry Benefits

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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

Market Sector:

- All directly connected supply points including Prime and Sub meters
- [Daily Metered 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:

- [Non daily metered CSEP sites]

Detailed Requirements Analysis

6. Assumptions and Concerns

6.1 Assumptions

- The business rules will need to be appropriate for dumb metered sites as well as remotely read sites
- Shippers will submit validated meter readings
- Continual monitoring to take place of SMIP developments to ensure alignment with parties obligations and DCC services
- AUGE role and or methodology may require amending via a Modification following approval of these business requirements.
- The processes described in the Settlement workgroups are approved
- Reconciliation is performed at meter point level
- Reconciliation includes energy and commodity charges.
- Reconciliation will not be triggered by a Shipper estimated read unless the estimate is a transfer read
- Only those reads that have passed the GT validations will be used for the purposes of reconciliation.

6.2 Dependencies

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

6.3 Risks

- Not all Shippers/Suppliers attend the Workgroups or are represented therefore there may be opposition to any potential Modifications raised.

6.4 Issues

-

6.5 Constraints

-

7. Overview of Business Processes

7.1 Current Processes and Process Maps

7.2 To-Be Processes and Process Maps

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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;

- Process 1, 'Daily Metered Time Critical'
 - Daily reads obtained and submitted to the GT daily before 10.00 am.
 - Actual or estimated reads may be submitted by the Shipper
 - The latest read loaded will be used for allocation and energy balancing purposes.
- Process 2, 'Daily Metered Not Time Critical'
 - Daily reads obtained and submitted to the GT daily.
 - If the reads are submitted before 10.00 am they will be used for allocation purposes otherwise a read must be received before end of the GFD+1.
 - Actual or estimated reads may be submitted by the Shipper
 - The latest read loaded will be used for final allocation and energy balancing purposes.
- Process 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 or estimated reads may be submitted within the batch by the Shipper
 - Reconciliation will be carried out daily based on the reads received
 - Allocation and energy balancing is based on the estimate calculated by the GT.
- Process 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 estimate calculated by the GT.

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 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
 - Check Read
- 8.1.7 Meter reads that will not trigger a reconciliation are;
- Shipper estimated reads except an estimated transfer read or an estimated read received within a batch of reads for process 3
 - GT estimated reads except an estimated transfer reads

8.2 Periodic Reconciliation

Periodic reconciliation is designed for sites within Process 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 for each gas day since the last read date up to and including the date of the current reading.
- 8.2.2 Reconciliation process compares the energy offtaken using the actual meter reads to the estimated 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.
 - Calculate daily actual volume as RF x Allocated Volume.
 - Daily Reconciliation volume = daily actual – daily allocated volume.
- 8.2.5 Reconciliation is performed at meter point level, not aggregated.

8.3 Daily Reconciliation

Daily reconciliation is designed for Processes 1 & 2 where daily reads are submitted to the GT before close out (GFD+5) and process 3 sites to apportion energy across missing days. The trigger and treatment of reconciliation is different for Process 3 sites: 'Batched Daily Readings' where a batch of daily reads are submitted, this is described in Section 8.4. This section will describe the process for reconciliation of energy for the following scenarios where reconciliation involves the apportionment of energy across days;

- Receipt of a Shipper meter reading following a GT estimated reading (Processes 1 & 2) after GFD+5
- Estimated reads between actual reads after GDF+5
- For missing read days (either a read has not been submitted for a day or the read has been rejected) following receipt of a batch of reads (Process 3 only).

8.3.1 On receipt of a valid reading the GT will perform reconciliation for each gas day since the last read date up to and including the date of the current reading

8.3.2 Reconciliation process compares the energy offtaken using the actual meter reads to the estimated energy allocated.

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

8.4 Daily Reconciliation for Process 3: Batched Daily Readings

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

This section 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 (actual or estimate) submitted to the GT within a batch of reads, the energy will be compared to the energy estimated by the GT 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

8.5 Reconciliation following a Re-synch

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 latest 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 (see Figure 1 & 2).

8.5.2 Reconciliation quantities will be calculated as follows;

- Calculate a Reconciliation Factor (RF) for the period as $\text{Actual Volume} / \text{Allocated Volume}$.
- Calculate daily actual volume as $RF \times \text{Allocated Volume}$.
- Daily Reconciliation volume = daily actual – daily allocated volume.

Figure 1

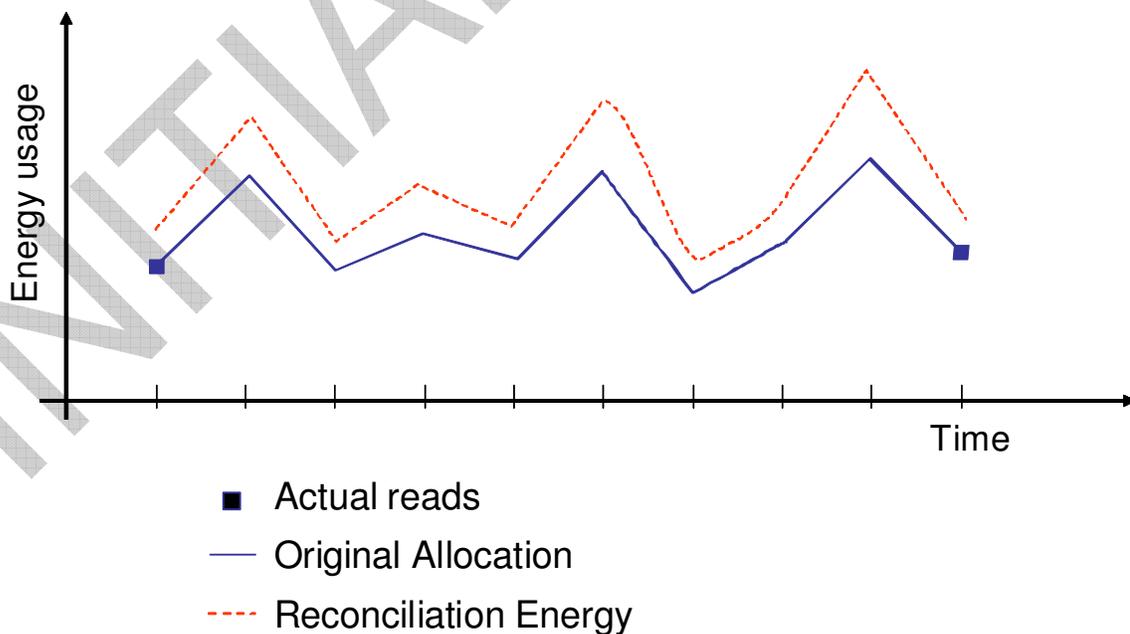
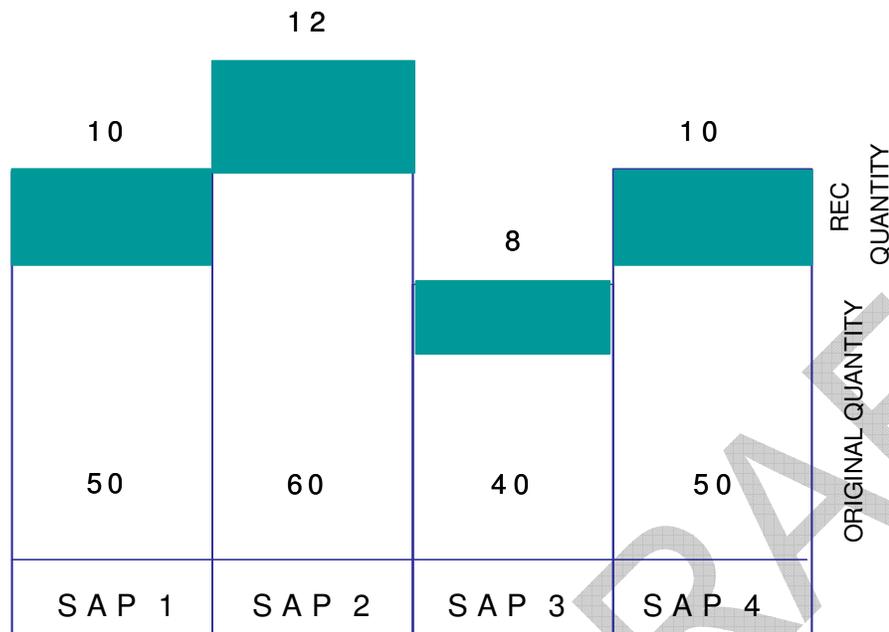


Figure 2



8.6 Re-Reconciliation

A re-reconciliation would be triggered following receipt of a read(s) 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 to carry out the re-reconciliation not the original read.

8.7 Reconciliation Neutrality ('Reconciliation Scaling Adjustment'?)

The 'Allocation Scaling Adjustment' shares out unallocated energy each day to Shippers based on their portfolio and in proportion to the initial allocations. Reconciliation changes the amount of unallocated energy, either increase or de-creates 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 Reconciliation Scaling Adjustment therefore amends the share of unallocated energy to Shippers.

8.7.1 Following a reconciliation calculation and its inclusion on an invoice, the value of un-allocated energy is re-calculated and shared between Shippers.

8.7.2 The value can be a positive or a negative value.

8.7.3 The recalculation of unallocated energy is calculated monthly and will be based on the latest measurements at the time of the calculation (see Figure 3)

Or

8.7.4 The recalculation of unallocated energy is calculated monthly and will be based on the initial measurements (see Figure 4)

8.7.5 The share is billed at LDZ and Shipper level and applies to all sites within the LDZ

Or

8.7.6 The share is billed at Shipper level and based on their market share at the time of calculation

8.7.7 The transportation charges applied will be (options);

- use industry average rate of transportation or
- calculate a Shipper specific rate based on their portfolio or
- only charge for energy.

Figure 3

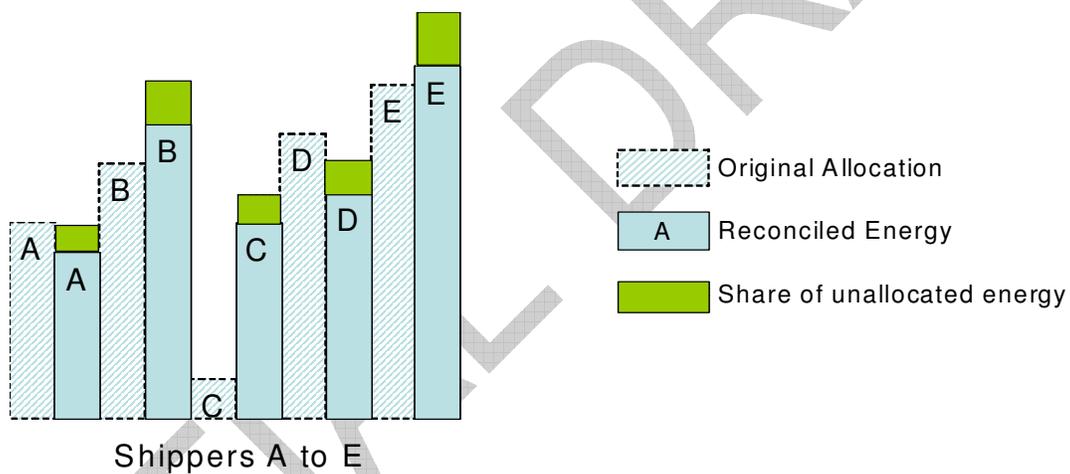
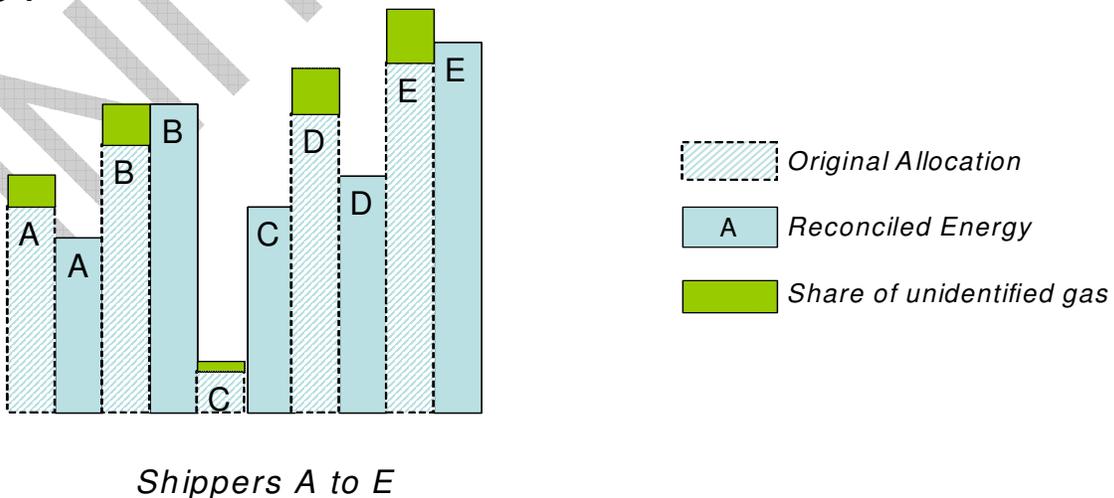


Figure 4



8.8 Validation of Reconciliation Values (Filter Failures)

This process **suppresses / rejects** values which fail a tolerance in order to ensure potentially erroneous reconciliation charges, debit or credit, are not invoiced. This protects both the individual Shipper from large erroneous values and the industry from the opposite impacts of the erroneous value through the 'Reconciliation Scaling Adjustment'.

8.8.1 At read receipt a tolerance check is carried out by the GT

8.8.2 The tolerance is based on the reconciliation energy calculated from the read

8.8.3 Only applies to reads received which would create a reconciliation.

8.8.4 The tolerances are detailed below;

Lower AQ band	Upper AQ band	Tolerance
0	73,200	Rec energy + or – Y% x AQ / read period
73,201	732,000	Rec energy + or – Y% x AQ / read period
732,001	5,860,000	Rec energy + or – Y% x AQ / read period
5,860,001	29,300,000	Rec energy + or – Y% x AQ / read period
29,300,001	and above	Rec energy + or – Y% x AQ / read period

8.8.5 A further check performed following calculation of the reconciliation charge prior to invoice submission.

8.8.6 The check is based on the monetary value of the charge.

8.9 Rollover Tolerances

Where low value reconciliation values are calculated these are not invoiced but rolled over until the total balance exceeds a tolerance.

8.9.1 All reconciliation charges are invoiced, none are rolled over.

Or

8.9.2 The tolerance is applied to an **energy value / charge value**

8.9.3 The parameter is set by the **value / AQ band**

8.9.4 After [12 months/last reconciliation invoice for the financial year] all charges accrued are invoiced no matter what the net value is.

8.10 Reconciliation ‘Line in the Sand’

A reconciliation period will not go back further than [3] years from the date of the reconciliation reading.

8.11 Reconciliation Communication

The read communication will include, but is not limited to, the following data items; TBD

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9. Non-Functional Business Requirements

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10. Appendices

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11. Document Control

Version History

Version	Status	Date	Author(s)	Summary of Changes
0.1	Draft	20/05/2011	Xoserve	First draft

Reviewers

Name	Version	Date
Workgroup attendees		

Approval

Name	Role	Date
Reconciliation Workgroup		
PN UNC		