

Retail Market Procedure NI 14

Readings Processing Non-Interval

21/11/2013

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1. Introduction

1.1 Scope

This document is the Retail Market Procedure for Non-Interval Readings Processing in Northern Ireland.

The Procedure applies to consumption readings for all commercial Non-Interval metered sites and residential Non-Interval metered sites where an MPRN has been assigned.

- **Obtain Meter Readings**
 - o Describes the process of collecting readings from scheduled meter reading, Customers and Suppliers
- **Process Readings**
 - o Describes the process of validating meter readings and the market messages used to communicate both valid and invalid readings to Suppliers.
- **Withdrawn Readings and Estimates**
 - o Describes the process for withdrawing and replacing readings and estimates.
- **Readings Dispute Processing**
 - o Describes the process used to dispute a Change of Supplier Reading and to resolve that dispute.

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1.2 History of Changes

Version	Source of Change	Description of Change
0.1		Initial Draft
0.2	P Merkens	Updated for MCR 1012, 1018, 1023, 1030, 1073 and CRID 144
0.91	P Merkens	Updated following NIE Review and for CRID 155 and issued for SIG Workshop
0.92	P Merkens	Updated following SIG Workshop
0.93	P Merkens	Change to criteria for withdrawing and replacing estimates when an actual read is received
0.94	J-E Smith	Final Draft Issued for Supplier Review prior to SIG Approval
1.0	A Ferguson	Baseline SIG Approval
2.0	A Ferguson	Baseline CDA Board approved <ul style="list-style-type: none">Updated for DR1110/CRID163
2.1	J-E Smith	Baseline CDA Board Approved <ul style="list-style-type: none">Updated for DR1118/CRID167
	A Ferguson	Updated to reflect MP NI 39 Glossary of Terms
	J-E Smith	Updated to replace "<to be determined>" text
2.1.1	J-E Smith	CDA Board Approved <ul style="list-style-type: none">Updated for DR1132/CRID177

1.3 Document References

Document Reference	Document Name
MP NI 1	Change of Supplier - Non-Interval
MP NI 5	New Non Interval Metered Connection
MP NI 9	De-Energisation
MP NI 10	Re-Energisation
MP NI 11	Changes to Meter Configuration
MP NI 16	Data Aggregation

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MP NI 18	Special Read Requests
MP NI 25	Change of Legal Entity
MG NI 34	DUoS, Transaction and PSO Billing
MP NI 37	Change of Supplier Keypad
MP NI 39	NI Market Procedures - Glossary of Terms

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1.4 Outstanding Issues

The rules for manual maintenance of EUF, described in section 2.2.8, are subject to review.

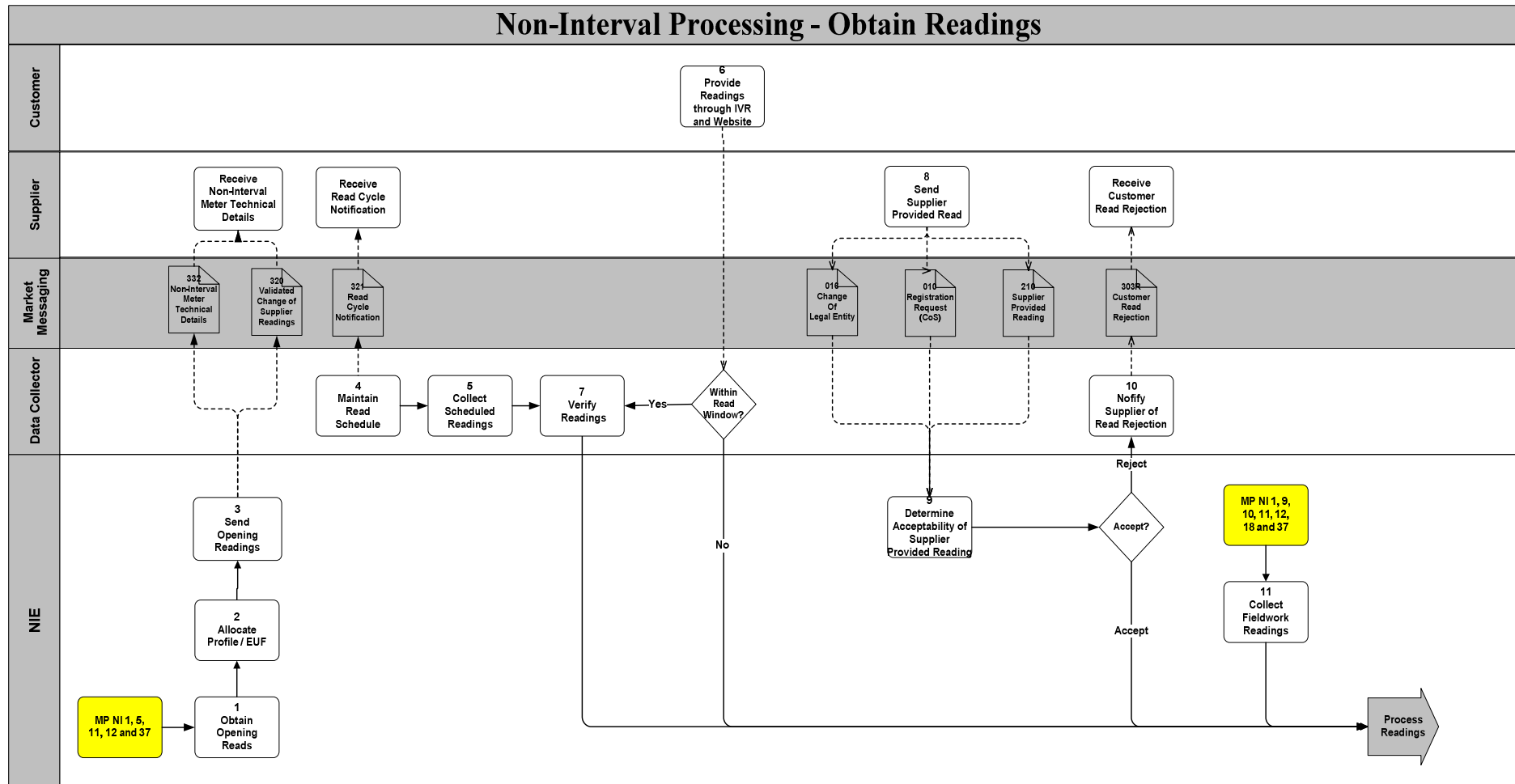
A cross jurisdiction working group is to be set up to review the processing of settlement adjustments outside the M+13 settlement timescale and, accordingly, references to creating deemed readings at M+13 have been removed.

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2. Procedure Description

2.1 Obtain Meter Readings

2.1.1 Process Flow Diagram



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2.1.2 Process Description

Step	Role	Action	Interface
1, 2	NIE	<p>When NIE completes a Non-Interval meter installation, reconfiguration or exchange as a result of the following processes NIE will obtain opening meter readings obtained as part of the meter works job completion. Refer to the following procedures for details of processes resulting</p> <ul style="list-style-type: none"> • MP NI 1 Change of Supplier – Non Interval Credit • MP NI 5 New Non Interval Metered Connection • MP NI 11 Changes to Meter Configuration • MP NI 12 Meter Problems and Damage, Enquiries and Complaints • MP NI 37 Change of Supplier – Keypad <p>NIE will assign a new Profile and Estimated Usage Factor (EUF) to the Meter Point. See section 2.1.3 for Profile and EUF Allocation rules.</p>	
3	NIE	NIE will provide all the opening readings to the Supplier or New Supplier together with details of the assigned Profile and Estimated Usage Factor (EUF).	<p>320 to New Supplier</p> <p>332 to Supplier</p>
4	Data Collector	<p>The Data Collector will maintain a schedule for the collection of scheduled quarterly readings. Schedules shall include all Non-Interval credit metered sites and keypad metered sites. Each Non-Interval Meter Point will be allocated to a Read Cycle. The Read Cycle comprises a week identifier and a day identifier.</p> <p>Meter Point Read Cycle allocations will be communicated to Suppliers using the <i>Read Cycle Notification</i> market message:</p> <ul style="list-style-type: none"> • During the Registration process • When there is a change of Read Cycle <p>Each Read Cycle will be associated with a schedule of planned reading dates.</p>	321 to Supplier
5	Data Collector	The Data Collector will collect readings in accordance with the Read Cycle schedules. Where a reading cannot be collected as a result of a site visit a card will be left for Customers to provide their own read to the Data Collector.	

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Step	Role	Action	Interface
		<p>De-energised and vacant premises are included in meter read schedules but will not be read unless access to the meter can be obtained. The Data Collector will report to the NIE Data Processor any observed vacant sites, damage or tampering and de-energised premises where there is apparent consumption of electricity.</p> <p>Where it has not been possible to collect a reading in three or more successive quarterly read cycles, and no valid reads have otherwise been obtained for the register within the same period, NIE will provide a report of all such non-read Meter Points to Suppliers in a machine readable form including MPRN, address and last actual read date.</p>	No Read Report to Suppliers
6	Customer	The Customer can provide readings to NIE through IVR (Interactive Voice Response) and NIE Website channels. In order to use the NIE website to provide readings Customers will be required to provide their MPRN and postcode and respond to a captcha in order to access the website.	IVR / NIE Website
7	Data Collector	The Data Collector will verify scheduled readings that it collects (see section 2.1.4) and Customer provided readings provided to the Data Collector through IVR within the scheduled meter read window. Readings that pass verification will be provided to NIE Data Processor. Readings that do not pass verification will also be provided to the NIE Data Processor.	
8	Supplier	<p>A Supplier may provide a reading:</p> <ul style="list-style-type: none"> As part of a Change of Supplier Registration message for a Non-Interval Meter Point using the Registration Request market message As part of a Change of Legal Entity As a Supplier Provided Reading for a Change of Supplier but separate from Registration As a Registered Supplier for the purpose of ensuring that the DUoS Bill properly reflects actual consumption. <p>The complete Meter Serial Number and Timeslot must be provided to identify the meter registers for which readings are provided.</p>	<p>010 from New Supplier</p> <p>016 from Supplier</p> <p>210 from New Supplier</p> <p>210 from Supplier</p>

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Step	Role	Action	Interface
		A Supplier must take all reasonable steps to ensure that Supplier provided readings are an accurate statement of actual consumption.	
9, 10	NIE	<p>NIE will determine the acceptability of Supplier provided readings and will advise the Supplier of any rejected readings.</p> <p>Supplier provided readings will be rejected if:</p> <ul style="list-style-type: none"> • The meter details are incorrect, in which case the available meter id details are populated using the meter details held by NIE; or • The Read Date or Required Date is dated in the future or is absent, or • The Read Date or Required Date predates the most recent DUoS Bill; or • The Read Date or Required Date predates a billed reading; or • Readings provided for the purpose of a Change of Supplier are received from a Supplier other than one with a pending Registration; or • Readings provided for a purpose other than a Change of Supplier are received from a Supplier other than one with a current Registration. <p>NIE will notify the Supplier when Supplier provided readings are rejected for the above reasons.</p>	303R to (New) Supplier
11	NIE	<p>NIE may complete Fieldwork as described in the following procedures and provide readings to NIE Data Processor.</p> <ul style="list-style-type: none"> • MP NI 1 Change of Supplier - Non-Interval Credit • MP NI 9 De-energisation • MP NI 10 Re-energisation • MP NI 11 Changes to Meter Configuration • MP NI 12 Meter Problems and Damage, Enquiries and Complaints • MP NI 18 Special Read Requests • MP NI 37 Change of Supplier - Keypad 	

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2.1.3 Profile and EUF Allocation Rules

All consumption registers for Non-Interval Meter Points will be allocated a Standard Profile according to their DUoS Tariff as follows:

- Standard Profile 1 will be used for residential meter registers supporting unrestricted tariffs
- Standard Profile 2 will be used for residential meter registers supporting switched tariffs.
- Standard Profile 3 will be used for commercial meter registers supporting unrestricted and evening/weekend tariffs
- Standard Profile 4 will be used for commercial meter registers supporting economy 7 and meter registers supporting restricted hours preserved tariffs.

EUF are allocated only if a Standard Profile is allocated. The Standard Profile for a register is determined from the Meter Point Load Profile and the Time of Use applicable to the register.

For each combination of Standard Profile and register Time of Use a Derived Profile will be determined for use in estimation for DUoS billing and aggregation. Derived Profiles use the profile coefficients for the hours indicated for the register Time of Use in the 'Time of Use Profiling' worksheet in the NIE Data Mapping spreadsheet in order to determine an estimated consumption shape for that register.

The Derived Profile to be used where tele-switching is employed may differ from that used where clock-switching is employed, although the Meter Configuration may be the same.

EUF Allocation

Where a new metering configuration is installed a default EUF will be allocated to each consumption register based on the default class average EUF for the same register class, i.e. registers with the same combination of:

- Usage type (residential, commercial, combined); and
- Meter Configuration Code; and
- Register Time of Use

Where, however, there is a previous register with the same Time of Use the previously calculated EUF for this register will be re-used.

The default EUF becomes effective from the start of the day of the Fieldwork.

2.1.4 Meter Read Verification Rules

The Data Collector will perform the following verification prior to provision of readings to the Data Processor:

For scheduled quarterly consumption readings the following verification is performed:

- A low limit is set as the last actual or estimated reading for consumption registers.

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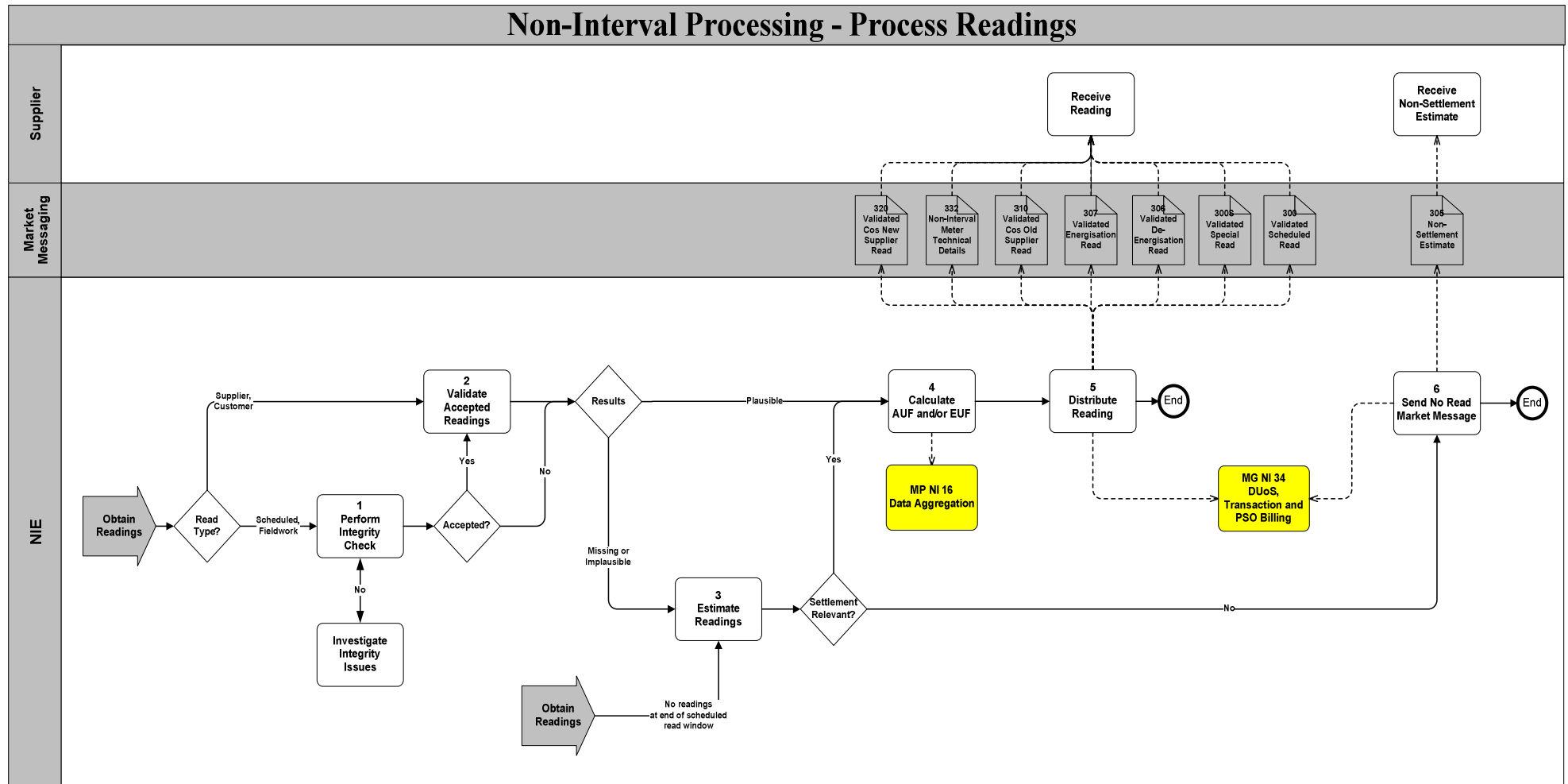
- A high limit is set based on 250% of the expected consumption for the current meter configuration and tariff.
- Where a reading is found on-site to be outside the high-low limits the meter reader must respond to the handheld unit's failed audit screen, by confirming the meter number and reading are correct or by replacing the reading and/or reporting a meter number mismatch as detailed below.
- Confirmed or replacement readings are captured as verified.
- Where a meter serial number mismatch is detected on-site, meter readings will be recorded separately. The meter details must be corrected before the reading is released.

Expected consumption is calculated as described in section 2.2.4.

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2.2 Process Readings

2.2.1 Process Flow Diagram



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2.2.2 Process Description

Step	Role	Action	Interface
1	NIE	<p>NIE will perform an integrity check on scheduled and Fieldwork readings</p> <p>Where the Data Processor cannot match readings to the currently recorded meter configuration, or where readings are incomplete, then an investigation will be conducted to determine if the metering configuration has been changed or is in error. Once the metering configuration has been confirmed:</p> <ul style="list-style-type: none"> Where the readings can be matched to the new meter configuration and are complete then the readings are accepted and will be validated Where scheduled readings are missing the received readings will be validated and the missing readings estimated Where Fieldwork readings are incomplete and cannot be obtained, the missing readings will be estimated <p>A reading will be rejected if it is dated prior to a subsequent valid read.</p> <p>Rejected readings will be retained for future reference.</p> <p>The Data Processor will review cases of damage, tampering and apparent consumption on de-energised sites. Damage, tampering and consumption suspected during a period of de-energisation will be referred to the Revenue Protection Unit and the Registered Supplier will be informed.</p>	
2	NIE	<p>NIE will validate accepted readings, other than opening readings for a new metering configuration, as detailed in section 2.2.3. Validation will be performed for Non-Interval meter readings collected from all sources.</p> <p>Where metered readings fail the validation criteria then the following actions will be taken:</p> <ul style="list-style-type: none"> Where a reading is lower than the previous reading, the possibility of meter rollover will be considered and readings revalidated on this assumption Where there is previous consumption history a manual assessment will be made of whether the readings are consistent with previous consumption patterns - this will generally be relevant when there was a directly equivalent prior year consumption period Where Fieldwork readings fail validation, readings paperwork or systems and any removed meters will be inspected 	

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Step	Role	Action	Interface
		<ul style="list-style-type: none"> Where meters have been not been removed; and except for Supplier provided readings; NIE will attempt to contact the customer to obtain verification of the reading Where a Supplier provided reading fails validation then NIE will contact the Supplier to verify the reading or to obtain a replacement. Where Fieldwork readings fail validation, meters remain on site and the above activities do not resolve the failure, NIE will visit the site to obtain a verification reading. For Fieldwork, readings will be estimated if it has not been possible to obtain a plausible reading by any other means. Where a scheduled reading is required for a Change of Supplier and the above activities do not resolve the failure, NIE will visit the site to obtain a verification reading <p>As a result of these activities, readings may be set to valid or may be replaced with an alternative reading.</p>	
3	NIE	<p>Estimated readings, calculated as described in section 2.2.4, will be generated in the following circumstances:</p> <ul style="list-style-type: none"> When actual readings from de-energisation, meter removal, meter reconfiguration or meter exchange Fieldwork are not available or do not pass validation To complete a set of readings when some readings are either missing or do not pass validation, provided that at least one reading is valid When an actual read is not available or does not pass validation for a Change of Supplier for a credit metered Meter Point, and an estimate is requested and allowable When an actual read is not available or does not pass validation for a Change of Supplier for a keypad metered Meter Point When an actual read is not available or does not pass validation for a Change of Legal Entity When an actual read is not available or does not pass validation for DUoS billing Where a reading provided using the Supplier Provided Reading message for a purpose other than a Change of Supplier fails validation Where, at the end of the period in which a scheduled reading is due to be collected, scheduled readings are either not available or could not be validated by any means. <p>The estimation method will not apply when a Meter Point is de-energised or is agreed to be subject to the Long-Term Vacant process, when estimated consumption is set to zero.</p>	

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4	NIE	<p>Where actual or estimated readings are settlement relevant NIE will calculate:</p> <ul style="list-style-type: none"> • AUF(s) for the period since the last actual reading, except in the case of opening reads • EUF(s) for the next period, except in the case of closing and de-energisation reads <p>See section 2.2.6 for details of AUF and EUF calculation.</p>	
5	NIE	<p>Valid readings, including settlement relevant estimates, will be provided to Suppliers as follows:</p> <ul style="list-style-type: none"> • Closing reads for replaced, de-programmed or removed metering configurations will be provided together with the AUF(s) and any consumption since the last billed reading will be communicated using the removed meter segment of the <i>Non-Interval Meter Technical Details</i> market message. • Closing reads for Old Suppliers in a Change of Supplier scenario will be provided together with the AUF(s) and any consumption since the last billed reading using the <i>Validated Change of Supplier Reading</i> market message. • Opening reads for new or re-programmed metering configurations will be provided together with any applicable EUF(s) using the <i>Non-Interval Meter Technical Details</i> market message. <p>NIE will communicate the details of all new meters and meter registers using the new meter segment and the details of all retained meters and meter registers using the retained meter segment.</p> <ul style="list-style-type: none"> • Opening reads for New Suppliers in a Change of Supplier scenario will be provided together with any applicable EUF(s) for the next period using the <i>Validated Change of Supplier Reading</i> market message. Estimated annual consumption will be calculated and communicated at register level. Where new meter registers are installed default class average consumption for each register will apply to each register and the sum of these class averages for a given Time of Use will constitute the EUF at Time of Use level. • Scheduled, Supplier and Customer provided readings obtained through any channel that are not used for a Change of Supplier will be provided to the Registered Supplier together with any consumption since the last billed reading, the AUF(s) and EUF(s) using the <i>Validated Scheduled Read</i> market message. However where a scheduled is received following DUoS billing, it is only communicated if it is dated after the billed reading. 	<p style="text-align: center;">332 to Supplier</p> <p style="text-align: center;">310 to Old Supplier</p> <p style="text-align: center;">332 to Supplier</p> <p style="text-align: center;">320 to New Supplier</p> <p style="text-align: center;">300 to Supplier</p>

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		<ul style="list-style-type: none"> Estimates used for a Change of Legal Entity that are not used for a Change of Supplier or Fieldwork will be provided to the Registered Supplier together with any consumption since the last billed reading, the AUF(s) and EUF(s) using the <i>Validated Scheduled Read</i> market message. Special readings that are not used for a Change of Supplier will be provided to the Registered Supplier together with any consumption since the last billed reading, the AUF(s) and EUF(s) using the <i>Valid Non-Interval Readings (Special)</i> market message Scheduled readings used for a Change of Supplier will be provided to the Registered (Old) Supplier together with any consumption since the last billed reading, the AUF(s) and EUF(s) using the <i>Validated Scheduled Read</i> market message. De-energisation readings will be provided together with any consumption since the last billed reading, the AUF(s) and zero EUF(s) using the <i>Meter Point Status Change Confirmation - De-energisation</i> market message. Energisation readings will be provided together with any consumption since the last billed reading, the AUF(s) and EUF(s) using the <i>Meter Point Status Change Confirmation - Energisation</i> market message. 	<p>300 to Supplier</p> <p>300S to Supplier</p> <p>300 to Old Supplier</p> <p>306 to Supplier</p> <p>307 to Supplier</p>
6	NIE	<p>Where, at the end of the period in which a scheduled reading is due to be collected, scheduled readings are either not available or could not be validated by any means, then NIE shall report this to Suppliers, together with an estimated reading and consumption, using the Non-Settlement Estimate market message.</p> <p>This will include any premise that is energised and has been observed as vacant.</p> <p>Where a reading provided using the Supplier Provided Reading message for a purpose other than a Change of Supplier fails validation readings estimated by NIE will be reported to the Supplier using the Non-Settlement Estimate market message.</p>	<p>305 to Supplier</p> <p>305 to Supplier</p>

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2.2.3 Validation

Validation of kWh readings will be based on an estimate of the expected consumption since the last valid actual or estimated meter reading. The estimation approach is described in section 2.2.4.

Consumption will be regarded by the Data Processor as valid if the advance since the last valid actual or estimated reading is non-zero and:

- The meter advance is below a de minimus value (value dependent on meter type and usage type); or, if this criterion is not met;
- Is not more than 200% of the expected consumption calculated under any of the methods above

2.2.4 Estimation

The method for estimating expected consumption is as follows:

- For Meter Points that use standard Profiles 2 and 4
 - If readings are available for an equivalent period in the previous year, expected consumption will be determined from consumption in the equivalent base period in the previous year, pro-rated using the Load Profile for the days in the current read period and the previous year read period
- For Meter Points that do not use standard Profiles 2 and 4
 - If readings are available for the immediate previous period, expected consumption will be determined from consumption in that base period, pro-rated using the Load Profile for the days in the current read period and the previous read period;
- A base period of the immediate previous period can be used where a base period of an equivalent period in the previous year is not available for Meter Points associated with standard Profiles 2 and 4.
- A base period during which a Meter Point is de-energised, is agreed to be Long-Term Vacant, or has a different meter configuration to the period for which the estimate is being produced will not be selected as a basis for estimation.
- In all cases, the base period is 80% of the length of the periodic billing period (91 days).
- If no period can be found matching the above criteria, expected consumption will be pro-rated from to a default value for the register class (see section 2.1.3).

Expected consumption will be calculated after application of multipliers and after allowing for meter register rollover.

The estimated reading will be the reading or estimate at the start of the consumption period, plus the estimated consumption divided by the applicable meter multiplier.

Estimates will be settlement relevant (i.e. actual usage factors will be calculated from the estimate) in the following circumstances:

- Estimates for de-energisation, re-energisation, meter removal, reconfiguration and exchange (an estimate for re-energisation will generally be for zero consumption).

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- Estimates for a Change of Supplier.
- Estimated readings used for a Change of Usage or Change of Legal Entity.
- Estimates to complete a set of meter readings when some readings are either missing or not valid.

Where an estimate is considered settlement relevant an AUF will be calculated as described in section 2.2.6.

2.2.5 Consumption Calculation from Meter Readings

Consumption will be calculated from the meter advance between the current reading and the reading or estimate at the start of the consumption period after application of multipliers and after allowing for meter register rollover.

Where a meter advance is not zero during a period of de-energisation then:

- Where de-energisation was effected using an estimated reading the de-energisation reading will be withdrawn and replaced with the energisation reading.
- Where de-energisation was effected using an actual reading this will be referred to as a Revenue Protection issue.

The consumption period for readings and settlement relevant estimates is determined as follows:

Type of Read	Deemed Read Date/Time	End of Previous Consumption Period Date/Time Previous EUF ceases	Start of Next Consumption Period Date/Time EUF becomes effective
Customer, Supplier, Special or Scheduled Read (Read Reasons 01, 02, 04, 26, 27, 95) Settlement Relevant Estimate (Read Reason 14)	End of Date of Read	End of Date of Read	Start of Day following Read Date
New Meter/Reconfigured Meter Opening Read (Read Reason 11, 21)	Start of Date of Meter Work	Not applicable	Start of Date of Meter Work
Re-Energisation Read (Read Reason 18)	Start of Day following Re-Energisation	End of Date of Re-Energisation	Start of Day following Re-Energisation
Removed Meter Closing Read (Read Reason 22)	End of Date of Removal	End of Date of Removal	Not applicable
Replaced Meter Closing Read (Read Reason 16)	End of Day before Exchange	End of Day before Exchange	Not applicable
De-Energisation Read (Read Reason 13)	End of Date of De-Energisation	End of Date of De-Energisation	Start of Day following De-Energisation. EUF will be zero

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For a Change of Legal Entity the effective date of any EUF representing estimated consumption for the new Customer will be the required date, if valid. Any readings are treated as move-out readings dated on the day before the required date.

2.2.6 AUF Calculation and EUF Re-Calculation Rules

Where a valid reading is obtained, that is not an opening read, an AUF will be calculated for the consumption period for the register by dividing the consumption for the period by the sum of the Derived Profile coefficients for the register Time of Use and the consumption period.

A new EUF will be calculated using the method set out below for a register in the following circumstances whenever a valid reading is obtained or a Settlement estimate is calculated, and there is not a change of metering configuration, effective from the day following the reading date.

The new EUF will reflect consumption in the previous year or lesser period if a full year's consumption data is not available.

Each EUF will be calculated as follows:

1. Estimated usage factors will be calculated for each Timeslot according to the weighted average of actual usage factors applicable to the Timeslot that were effective during the previous 365 days.
2. Weighting will be based on the applicable Profile coefficients for the days falling within the previous 365 days.
3. Periods when the Meter Point was de-energised or Long-Term Vacant will be ignored.
4. Estimated usage factors will not be calculated for Timeslots that are no longer effective at the Meter Point.
5. The base period for history used in calculation of an EUF will be a maximum of 365 days.
6. If no base period can be found matching the above criteria, the EUF will be set to a default value for the register class (see section 2.1.3).

As an example:



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$$(a) 0.30 \times 11000 = 3300$$

$$(b) 0.45 \times 10000 = 4500$$

$$(c) 0.25 \times 12000 = 3000$$

$$EUF = (3300 + 4500 + 3000) / (0.30 + 0.45 + 0.25) = 10800$$

Annualised consumption is determined by dividing the actual consumption by the sum of the Derived Profile coefficients for the Time of Use and the consumption period.

Any EUF re-calculated for a de-energised Meter Point or removed meter registers will not be used in Settlement. The re-calculated EUF will be used from the point of re-energisation.

EUF is provided to Suppliers for consumption meter registers wherever a Load Profile is allocated to the Meter Point.

2.2.7 Sites subject to the Long Term Vacant Process

When a site is observed during scheduled meter reading to be occupied when it was previously vacant, or to be vacant when it was previously occupied, this will be communicated to the Supplier using the *Validated Scheduled Read* market message (300) if a meter reading was obtained or the *Non-Settlement Estimate* market message (305) if a meter reading was not obtained.

For any Non-Interval site where a Supplier has notified NIE that a site is vacant and NIE has confirmed from meter reader observations that the site is Long Term Vacant on the two previous successive visits, and no readings indicating a meter advance have been obtained in this period, then the site will be subject to the Long Term Vacant process. EUF will be set to zero from the day following the first meter reader observation that the site is Long-Term Vacant and this will be notified to the Supplier using the *Non-Settlement Estimate* market message (305).

Any subsequent estimates for billing, and DUoS charges arising from these, will be cancelled using the withdrawn reading message 300W.

A site shall cease to be subject to the Long Term Vacant process when:

- It is observed to be no longer vacant; or
- An actual reading is obtained

Where a site ceases to be subject to the Long Term Vacant process and there is a reading an AUF will be calculated and the EUF will be calculated as described in section 2.2.6.

Where a site ceases to be subject to the Long Term Vacant process and there is no reading the EUF will be set to a default value at the date following the second vacancy observation.

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2.2.8 Manual Maintenance of EUF

NIE will maintain the current effective EUF manually in the following circumstances:

- i. A new commercial connection where the EUF, based on a class average, can significantly over-estimate or under-estimate consumption
- ii. A commercial site, where there is not a reason for de-energisation, where there has been a permanent change in the pattern of consumption, where the EUF, based either on previous consumption or on a class average, can significantly over-estimate or under-estimate consumption
- iii. A residential site where the EUF has been miscalculated (i.e. the EUF calculation rules stated in section 2.2.6 have been not been correctly applied)

A previous EUF that has been replaced by an AUF cannot be changed unless the readings from which the AUF was derived are withdrawn.

A request for a change of EUF must be made manually by the Supplier to NIE.

For commercial premises the criteria for deciding whether NIE shall accept a change of EUF are:

- There must be correspondence from the Customer to NIE, stating that the pattern of consumption has changed, stating the period over which the new consumption pattern will persist (which must be at least three months) and stating the expected consumption for each register Time of Use over this period. Where the change is permanent or will persist for over one year then an annual consumption can be provided. Based on the information provided, NIE will calculate an EUF based on expected consumption over the period for which the change will persist.
- The change in the EUF must be greater than a threshold which exceeds 25% of the class average for the register
- There must be an actual or Customer provided reading provided for the point from which the EUF will be changed. Where the change in the EUF exceeds 50% of the class average for the register then an actual reading must be obtained (i.e. a Customer read will not be accepted). This is to avoid a significant change in EUF on the basis of a reading that cannot be independently verified by NIE.

Once the revised EUF is accepted, NIE will ensure that the revised EUF remains in place for one year or for the period identified in the Customer letter if this is less than one year provided that actual and Customer reads obtained during the period indicate that the revised EUF is correct within 25% of an annual consumption extrapolated between the reading and the immediate prior actual or Customer provided reading.

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2.3 Withdrawn Reads and Estimates

2.3.1 Process Description

Step	Role	Action	Interface
1	NIE	<p>Reading Withdrawal</p> <p>Where a reading, previously regarded as valid, is subsequently found to be invalid or has been billed to the wrong Supplier, then it is withdrawn by NIE, together with any associated AUF and EUF, and this will be communicated to the affected Supplier.</p> <p>All readings will be withdrawn and replaced even when only some readings or estimates are invalid. If a site has multiple registers/devices and only one reading or estimate needs to be changed, a withdrawal message will be issued for all registers/devices. The incorrect reading or estimate will be amended (which will be billed) and replacement readings will be issued to the Supplier.</p>	<p>300W / 306W / 307W 310W / 320W 332W to Supplier</p> <p>300 / 306 / 307 / 310 / 320 / 332 to Supplier</p>
2	NIE	<p>Estimation Withdrawal</p> <p>When an actual reading is obtained that is less than previously billed estimate then the previously billed estimates will be withdrawn and replaced such that no estimate is greater than the actual reading.</p> <p>Estimates will be withdrawn and replaced where:</p> <ul style="list-style-type: none"> • An actual reading is received immediately after a reading history of three or more consecutive estimates on any one register; and • The consumption at that meter point is greater than 25% of the Estimated Usage Factor; and • There is no change of Supplier during this period of estimates. <p>When a Meter Point becomes subject to the Long Term Vacant process (see section 2.2.7) previous estimates will be withdrawn and replaced with an estimate of zero consumption and with the EUF set to zero.</p>	<p>300W / 305 to Supplier</p> <p>300W / 305 to Supplier</p> <p>300W / 305 to Supplier</p>

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Step	Role	Action	Interface
3	NIE	<p>Billing and Aggregation</p> <p>If the withdrawn reading or estimate has been billed then NIE will follow the Cancel and Re-Bill Process (<i>see MP NI 34 - DUoS, Transaction and PSO Billing</i>) to cancel the Bill and, where there is a replacement reading or estimate, re-Bill any new amount.</p> <p>Any correction to aggregated data provided to SMO will be included in the next aggregation run for the affected Settlement Days(s).</p>	

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2.4 Readings Dispute Processing

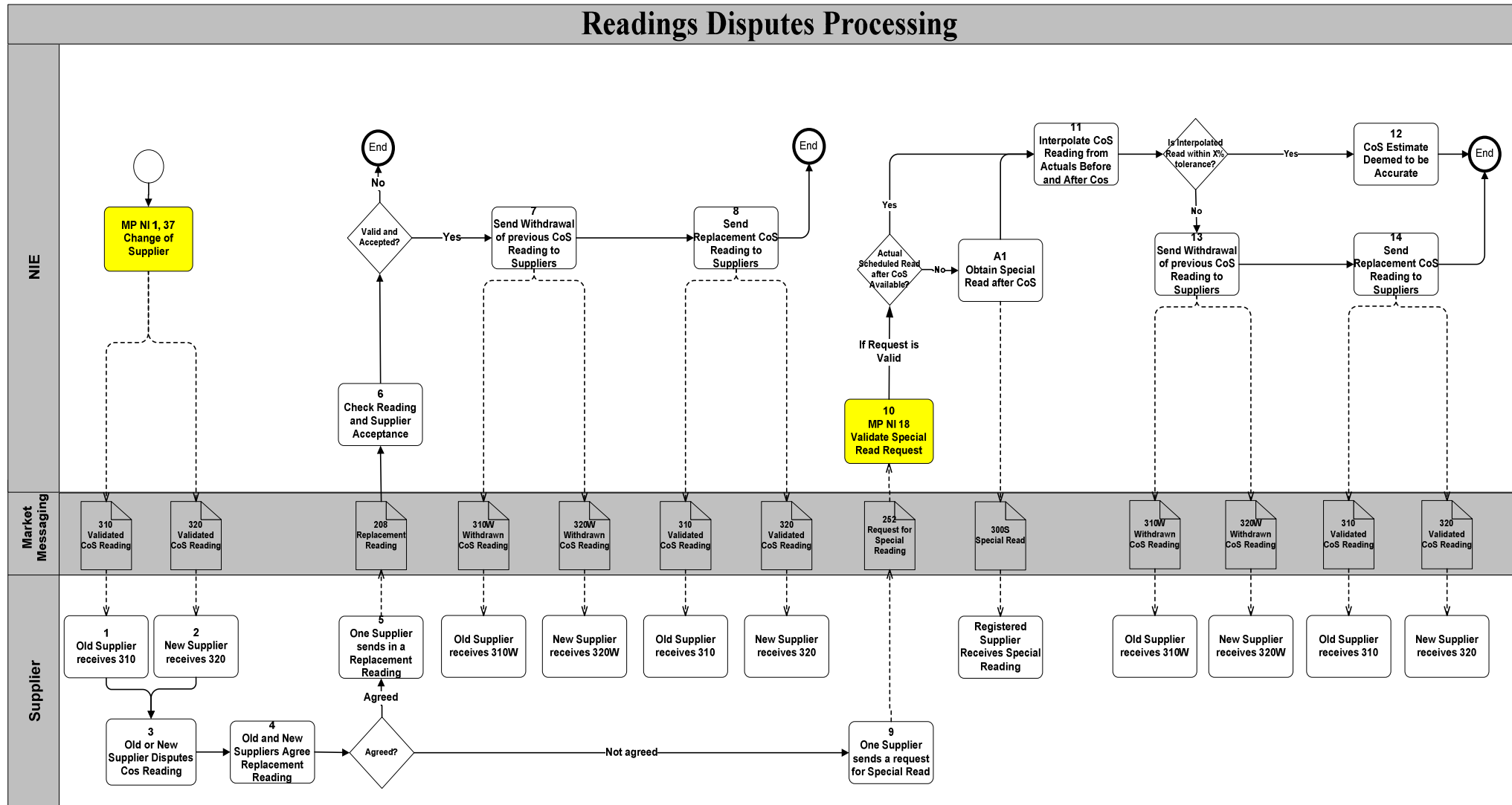
2.4.1 Principles

The principles for disputing Change of Supplier readings are as follows:

- Change of Supplier reads, including replacements, will be based on actual or Customer reads unless both Suppliers agree that an estimate may be interpolated by NIE from an Actual Read.
- Suppliers should only raise disputes for material errors. The suggested guideline for a material error is one that exceeds 25% of the normal quarterly consumption for a commercial MPRN and 10% of the normal quarterly consumption for a domestic MPRN.
- Suppliers should liaise on the replacement reading or the alternative action to be taken prior to providing the reading or action request to NIE.
- Special readings must be paid for by the Supplier requesting the special read unless there is no reading in 12 months or the Change of Supplier reading is shown to be inaccurate in accordance with the stated rules.
- NIE will not replace a Change of Supplier reading unless:
 - Both Suppliers accept (i.e. do not dispute) the new reading; or
 - Ordered to do so in accordance with the MRC disputes procedure; or
 - A subsequent and validated actual reading, collected within the time limit, is less than that used for the Change of Supplier.
- A time limit is required beyond which no further change to a Change of Supplier reading will be permitted. This is set to cover a quarterly read cycle (approximately 65 working days) so that an actual reading can be obtained if required without the expense of a special read. This provides a time limit of 65 days from the actual Change of Supplier date to initiate a dispute and a further 65 days to finalise a replacement reading. If, however, the dispute is referred to the Authority, these time limits do not apply.
- If no dispute is raised by either party within 65 business days then no further dispute will be allowed.
- Change of Supplier readings collected as a result of a meter change may not be disputed by this process.

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2.4.2 Process Flow Diagram



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2.4.3 Process Description

Step	Role	Action	Interface
3-5	Supplier	<p>Within 65 days of the effective date of a Change of Supplier, either Supplier can, having agreed a replacement reading with the other Supplier, provide the reading to NIE including a reason for replacement. The replacement reading proposed must be the reading to be applied at the Change of Supplier effective date.</p> <p>Only one Supplier is required to submit a <i>Replacement Reading</i> market message to NIE.</p>	208 to NIE
6	NIE	<p>NIE will check the replacement reading to ensure that readings are consistent with the meter details and all readings are present. The reading is manually validated for plausibility.</p> <p>NIE will contact the other Supplier within five business days of receiving the replacement reading to advise that the reading will be accepted unless it is disputed within the next ten business days.</p> <p>The other Supplier should inform NIE of their acceptance if they do not intend to dispute the replacement reading. On receipt of the acceptance, or if no dispute is received within ten business days, NIE will accept the replacement reading and consider it to be valid.</p> <p>No further dispute will be allowed in respect of this Change of Supplier as both Suppliers are considered to have accepted the readings unless a subsequent and confirmed actual reading obtained by NIE proves that the Change of Supplier reading was too low.</p> <p>If there is a dispute, then NIE will inform the first Supplier within five days. A further ten days will be allowed for another replacement reading to be proposed or for an interpolation to be requested (step 9).</p>	
7, 8	NIE Data Processor	<p>If the reading on the <i>Replacement Reading</i> market message is valid, the following market messages will be sent:</p> <ul style="list-style-type: none"> • To the Old Supplier <ul style="list-style-type: none"> ○ <i>Withdrawal of Validated Change of Supplier Reading</i> - to withdraw original CoS reading ○ <i>Validated Change of Supplier Reading</i> - to advise the replacement reading 	310W / 310 to Old Supplier

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Step	Role	Action	Interface
		<ul style="list-style-type: none"> To the New Supplier <ul style="list-style-type: none"> <i>Withdrawal of Validated Change of Supplier Reading</i> - to withdraw original CoS reading <i>Validated Change of Supplier Reading</i> - to advise the replacement reading 	320W / 320 to New Supplier
9	Supplier	<p>Either Supplier may request an interpolation within 65 business days of the effective date of a Change of Supplier by sending a <i>Request for Special Reading</i> market message to NIE.</p> <p>The Read Reason must be set to 04 and Read Type set to E.</p>	252 to NIE
10, A1	NIE	<p>NIE will validate the Special Read Request as described in MP NI 18 Special Read Requests</p> <p>If the Special Read Request is valid the Data Processor will process the Request for Special reading as follows:</p> <ul style="list-style-type: none"> NIE will inform the other Supplier of the request for interpolation. If the dispute is initiated using the <i>Request for Special Reading</i> market message: <ul style="list-style-type: none"> If an actual reading is available after the Change of Supplier, NIE will use this to interpolate the Change of Supplier reading. If there has been no actual reading after the Change of Supplier, NIE will obtain a reading and propose an interpolated reading from this. A Customer reading will not be permitted. <p>If there has been an actual reading in the last twelve months then the Supplier requesting the special read will normally be liable for a charge. The charge is waived for the Supplier if the interpolation from the special reading indicates that the Change of Supplier reading was incorrect (outside the specified tolerance).</p> <p>Where a special read is obtained, this will be communicated to the registered Supplier using the <i>Valid Non-Interval Readings (Special)</i> market message</p>	300S to Supplier

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Step	Role	Action	Interface
11, 12	NIE	<p>Using the Special Reading or other actual reading available after the Change of Supplier and the last actual read prior to the Change of Supplier, an estimate will be interpolated for the Change of Supplier date.</p> <p>See section 2.4.4 Read Interpolation.</p> <p>Interpolated readings will be created and provided to both Suppliers within five days of the reading on which the interpolation is based being collected, or if a reading is already available, within five days of a request to do so.</p> <p>If the actual reading obtained is less than the Change of Supplier reading billed by NIE or the calculated consumption variance is greater than 5% of the expected annual consumption, the Change of Supplier reading will be deemed to be inaccurate.</p> <p>Otherwise the Change of Supplier reading will be deemed to be accurate and the process ends.</p>	
13, 14	NIE	<p>If the Suppliers agree that the readings are changed as a result of the dispute process the following market messages will be sent:</p> <ul style="list-style-type: none"> • To the Old Supplier <ul style="list-style-type: none"> ◦ <i>Withdrawal of Validated Change of Supplier Reading</i> - to withdraw original CoS reading ◦ <i>Validated Change of Supplier Reading</i> - to advise the replacement reading • To the New Supplier <ul style="list-style-type: none"> ◦ <i>Withdrawal of Validated Change of Supplier Reading</i> - to withdraw original CoS reading ◦ <i>Validated Change of Supplier Reading</i> - to advise the replacement reading <p>Any adjustments to DUoS Billing will be made in the next monthly billing run.</p>	<p>310W / 310 to Old Supplier</p> <p>320W / 320 to New Supplier</p>

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2.4.4 Read Interpolation

NIE will calculate an interpolation for meter registers measuring consumption based on the obtained reading and the last valid Actual or Customer read prior to the effective date of the Change of Supplier. The interpolation for each register will be based on the Derived Profile applied to that register:

$$R_{CoS} = R_1 + (\text{Advance}(R_1, R_2) * (\text{Profile Coefficients}(R_1, R_{CoS}) / \text{Profile Coefficients}(R_1, R_2)))$$

Where:

R_{CoS}	The interpolated Change of Supplier reading for a meter register
R_1	The last valid actual or customer reading prior to the effective date of the Change of Supplier
R_2	The reading obtained as a result of the request for special read
$\text{Advance}(R_1, R_2)$	The meter advance between R_1 and R_2 ; accounting for any roll-over
$\text{Profile Coefficients}(R_1, R_{CoS})$	The sum of the profile coefficients for the Derived Profile applied to the register between the dates of R_1 and the effective date of the Change of Supplier
$\text{Profile Coefficients}(R_1, R_2)$	The sum of the profile coefficients for the Derived Profile applied to the register between the dates of R_1 and R_2 .

If the next actual or special reading requested is confirmed to be less than the reading used for the Change of Supplier then, as the Change of Supplier reading is clearly incorrect, both Suppliers will be bound by (i.e. are required to agree) the interpolation that is made by NIE from this reading.

In any other circumstances there is a reasonable chance that the Change of Supplier reading was correct and therefore both Suppliers must agree, within a further ten business days, to the use of the interpolated reading.

If it is not agreed by both Suppliers that the readings are changed as a result of the dispute process then either Supplier may refer the dispute for determination by the Authority in accordance with the Disputes and Appeals section of the Market Registration Code.