Section G: Change Pack

# G1: Communication Detail

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| Comm Reference: | 2827.6 - RT - PO |
| Comm Title: | XRN5072 Application and derivation of TTZ indicator and calculation of volume and energy – all classes  Revised Detailed Design Change Pack |
| Comm Date: | 17/05/2021 |

**G2: Change Representation**

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| Action Required: | For information |
| Close Out Date: | 01/06/2021 |

# G3: Change Detail

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| Xoserve Reference Number: | XRN5072 |
| Change Class: | Functional System |
| ChMC Constituency Impacted: | Shipper Class A; Shipper Class B; Shipper Class C |
| Change Owner: | James Barlow  Customer Change Specialist  [james.barlow@xoserve.com](mailto:james.barlow@xoserve.com)  0121 229 2802 |
| Background and Context: | Please Note: This is a revision of the Detail Design Change Pack that was originally issued in March 2021 (2808.2 - MT - PO). Following further analysis, it has been identified that:   1. No incorrect volume is calculated following an inserted Check Read and, therefore, there will be no amendments made to the current logic for this scenario. 2. Where there is an estimated Transfer or Class change reading, a Check Read received via the Site Visit and Fault Notification (SFN) file is validated against the previous Check Read however the volume is calculated from the estimated Transfer or Class change read. As volume is calculated to a different read than that used for validation, a change is required to the volume calculation to derive a TTZ in line with read history.   All changes from the previous version of the detailed design have been highlighted in green and, where applicable, ~~crossed out~~ within the Change Design Description section of this Change Pack. All other details remain unchanged but have been retained for your information.  This revision is for information only and, therefore, we are not seeking representations for discussion at ChMC in June 2021 however, please submit any questions or comments through the normal channels.  Since Nexus implementation, there have been a number of scenario specific defects raised concerning the use of the Through The Zero (TTZ)/Round The Clock (RTC) indicator provided in Meter Reading files and how the resultant volume is then being calculated.  The TTZ indicator is used for meter read validation to confirm whether the meter readings provided have clocked (gone Through The Zeros) since the last actual read. Due to the inconsistent use of the TTZ and subsequent inaccurate volume calculation several processes are impacted including , reconciliation, capacity charges, rolling AQ and FYAQ calculations. This can result in potentially inaccurate EUC assignment, Daily Gas Allocation and Unidentified Gas.  For context, example scenarios have been provided below. Please note, there are multiple permutations of these examples taking into account variables such as Supply Meter Point (SMP) Class, read source, read order, number of estimated reads and existence of later actual, or estimated, reads.  Examples provided are for illustrative purposes only.  Example 1  An actual read is provided with a TTZ value of zero following two estimated reads where one of these reads has a TTZ of 1.    In this scenario the provided, current, read has a TTZ value of zero. When calculating the volume between actual reads the TTZ of 1 from the 1st estimated read may result in an incorrect volume if not considered correctly.  Example 2  An existing read, with a TTZ of zero, is replaced by a read with a TTZ value of 1. A later estimated read, with a TTZ of 0, and a subsequent actual read, with a TTZ of 1, are present prior to the replacement read being received.    In this scenario, as the replacement read is higher, due to the TTZ value of 1, than the subsequent estimated read, if the TTZ from the estimated read is utilised as is then the forward volume calculation, from replacement to subsequent estimated read, will be incorrect.  Example 3  An actual read is inserted, with a TTZ value of 1, where an estimated read exists for a read date later than the inserted read, also with a TTZ value of 1.    In this scenario, as the TTZ value of both the inserted and subsequent estimated read is 1, as per example 2, if those TTZ values are utilised as is then the forward volume calculation, from inserted read to subsequent estimated read, will be incorrect.  When raised, the intention of the change was to address all issues in the utilisation of the TTZ in volume calculations regardless of SMP Class. However, during the detailed impact assessment it has been found that there are no issues for Supply Meter Points in Class 1 and Class 2 as better estimates are recalculated, where appropriate, following a valid actual read being loaded.  Also, in the original scope of the change, was a requirement to amend the logic utilised in the estimation of the TTZ value where one is not provided within an RGMA transaction. During the initial impact assessment it was found that a change to this logic would likely introduce more risk than it would remove and, therefore, was descoped from the change, with the support of DSG, in December 2020 (meeting papers can be found [here](https://www.xoserve.com/calendar/dsc-delivery-sub-group-14th-december-2020/)). However, please note, the resultant volume calculation remains in scope of the change. |

# G4: Change Impact Assessment Dashboard (UK Link)

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| Functional: | Meter Read Processing (UK Link) |
| Non-Functional: | None |
| Application: | SAP ISU |
| User(s): | Shippers |
| Documentation: | None |
| Other: | N/A |

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| --- | --- | --- | --- | --- |
| Files | | | | |
| File | Parent Record | Record | Data Attribute | Hierarchy or Format  Agreed |
| None | None | None | None | None |

# G5: Change Design Description

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| Within the initial Change Pack consultation, a single solution option was proposed, and all representations were in support of this solution which is defined below. This was ratified by Change Managers at the Change Management Committee (ChMC) meeting in January 2021.  **Solution Summary**  This change seeks to utilise the meter read history of a given MPRN to derive the correct TTZ values to use in volume calculations following the receipt of a read with or, in the case of an RGMA read submitted without a TTZ, the generation of, a TTZ not equal to zero.  There are a large volume of scenarios to be considered when assessing the read history so the following, using the examples defined in section G3 above, defines the proposed core principles to be used.  **Backward Volume**  Where the read immediately prior to the read being processed is not an actual read the logic for determining the TTZ for use in calculating backward volume will be updated as follows:  The TTZ value of the Current Read (CR)  minus  the sum of the TTZ value of all reads between the last actual read and the CR (excluding the last actual read and the CR)  The following is an example of the new backward volume calculation:    The TTZ used to calculated volume c. is derived by  TTZ of the CR is 0  minus  The SUM of all TTZ values between last actual and the current read (1st estimate is 1, 2nd estimate is 0) = 1  Therefore, a derived TTZ value of -1  The derived TTZ value of -1 will be applied to the current read for backward volume calculation. As volume is calculated between each read, estimated and actual, the current read must have a negative TTZ value so that volume c. is calculated as -300 and not as +9700.  For clarity, the derived TTZ value used in the volume calculation will not be stored. The read and the associated TTZ received, or generated, will be maintained.  **Forward Volume**  Where the current read is not the latest read held both backward and forward volume is calculated. Backward volume is calculated as defined above, the logic for determining the TTZ value for use in calculating the forward volume will vary based on the reads already present in UK Link. These variations are defined below.  It should be noted, where the received read is immediately prior to an existing actual read there are no changes required to the existing logic as the TTZ value to be used is already derived correctly.  *Replacement Reads*  In the case of a replacement read, the volume has already been calculated between each of the reads prior to the read being replaced. Following receipt of a valid replacement read, backward volume is calculated using the logic above and the forward volume, from the replacement read to the subsequent read will be calculated as:  The total, original, backward and forward volume  minus  the replacement backward volume (between the replacement and the previous read)  The below is an example of a replacement read scenario:      e. volume is calculated by  Summing original volume, a. (100) & b. (100) = 200  minus  New backward volume from d. (400)  Forward volume, e. = -200  For clarity, the consumption period holding volume c. is not affected by the replacement reading and, therefore, the value persists as f.  *Inserted Reads*  Where a read is inserted in-between existing reads the backward volume is calculated using the logic above and the forward volume, from the inserted read to the subsequent read, will be calculated, in line with the replacement read scenario previously defined. For context, this will be as follows:  The volume between the original reads  minus  the new backward volume (between the inserted read and the previous read)  The below is an example of an inserted read scenario:    c. volume is calculated by  Original volume from volume a. = (300)  minus  New backward volume, b. = (400)  Forward volume, c. = -100  *~~Inserted Check Reads~~*  ~~In the scenario where a check read, that is, a read triggering Check to Check reconciliation, is inserted prior to the latest read, the volume forward from the inserted read to the latest read will be calculated as:~~    ~~Total volume between previous check read and the latest read~~  ~~minus~~  ~~Volume between the inserted and previous check reads~~  ~~The below is an example of an inserted check read scenario:~~      ~~g. volume is calculated by~~  ~~Summing volume a. (100), b. (100) & c. (300) = 500~~  ~~minus~~  ~~Volume d. (100), e. (100) & f. (200) = 400~~  ~~Therefore volume g. = 100~~  ~~There is no change to the backward check to check volume calculation logic as this utilises actual meter reads.~~  **Check to Check Volume following a Site Visit and Fault Notification (SFN) read**  A read received via the SFN file will be validated against the previous Check Read and, where deemed Valid, will trigger Check to Check reconciliation. In the case where there is an estimated Transfer or Class change reading within the Check to Check period then the logic for determining the TTZ for use in calculating the Check to Check volume will be as follows:  TTZ of the Current Check Read  minus  the SUM of all TTZs between the previous Check Read and, up to and including, the estimated Transfer or Class Change read  (for clarity, this includes the TTZ on the estimated Transfer or Class change read but excludes the TTZ on the previous Check Read)  The below is an example of an SFN Check Read scenario:    e. TTZ is calculated by  TTZ of the Current Check Read e. = 1  minus  the SUM of all TTZs between the previous Check Read and, up to and including, the estimated Transfer or Class Change read b. (0), c. (1) = 1  Therefore, TTZ e. = 0  The TTZ of the current Check Read must be derived as 0 so that the portion of the Check to Check volume back to the estimated transfer or Class Change Read, is calculated as +200 and not as +10200.  Please note, as per current process, the TTZ of the ‘d. Actual Read’ is not required to determine the TTZ for the Check to Check volume calculation as this read is not considered in the Check to Check reconciliation process.  **Correcting Historic Volume Calculations**  There are a number of Supply Meter Points where volume calculations have taken place using incorrect logic and, therefore, reconciliation and AQ values have been calculated based upon, potentially, incorrect data. As part of this change, the CDSP will identify volume calculations that have included at least one meter read with a non zero TTZ indicator and assess, using the new logic defined within this change pack, whether that volume has been calculated incorrectly.  Any Supply Meter Points that are found to have had incorrect volume calculated historically will be corrected in line with the process used by the AQ Taskforce. This is:   * processing a financial adjustment to correct the reconciliation * processing a financial adjustment to correct the capacity * processing a change to the current Formula Year AQ where it is impacted     The Supply Meter Point Rolling AQ will be calculated in line with as is process following the receipt of the next qualifying read.  Volume periods that may have been calculated incorrectly previously will be excluded from having an historic volume corrected where:   * A subsequent check to check reconciliation has been performed and spans the potentially incorrect period * A Consumption Adjustment has already been applied for the affected period * The read, creating the incorrect volume, has since been replaced |

# G6: Associated Changes

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| Associated Change(s) and Title(s): | None |

# G7: DSG

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| Target DSG discussion date: | 24th May 2021 |
| Any further information: | As this change pack is for information discussion at DSG is for clarification purposes only and will not seek any recommendations |

# G8: Implementation

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| Target Release: | November 2021 |
| Status: | Approved |

Please see the following page for representation comments template; responses to [uklink@xoserve.com](mailto:uklink@xoserve.com)

Section H: Representation Response

«RangeStart:HDS»  
  
H1: Change Representation

(To be completed by User and returned for response)

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| --- | --- | --- | --- |
| User Contact Details: | Organisation: | «h1\_organisation» | |
| Name: | «h1\_name» | |
| Email: | «h1\_email» | |
| Telephone: | «h1\_telephone» | |
| Representation Status: | «h1\_userDataStatus» | | |
| Representation Publication: | «h1\_consultation» | | |
| Representation Comments: | «h1\_userDataComments» | | |
| Confirm Target Release Date? | «h1\_targetDate» | | «h1\_userDataAlternative» |

# H1: Xoserve’ s Response

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| --- | --- |
| Xoserve Response to Organisations Comments: | «h1\_xoserveResponse» |

Please send the completed representation response to [uklink@xoserve.com](mailto:uklink@xoserve.com)

«RangeEnd:HDS»