AQ Taskforce
Financial Adjustments Methodology

15th July 2020

Version 1.0

Agenda

- Background on AQ Financial Adjustments
- Adjustments Scope and Principles
- Summary of Initial high level analysis
- Next Steps
- Appendix
  - Worked out examples to demonstrate expected output from Low level analysis
  - Defect description and impacted portfolio details

AQ Financial Adjustments – Background

- Following the capacity adjustments undertaken as a result of defect 61866, Xoserve has undertaken an assessment of historic AQ defects that could have impacted the AQ calculation.

- Our analysis led us to identify c.121,000 MPRNs that could now be eligible for capacity adjustments.

- This methodology walkthrough articulates how we have arrived at this initial number in more details

- In support of this, Xoserve has also developed a set of adjustment principles (built on UNC rules) that will be presented to August's CoMC session for discussion/approval. These principles will be used to calculate the financial value for the capacity adjustments.

- Xoserve will have targeted communications with individual customers to describe impacts as required.

- To support the analysis of these adjustments Xoserve are seeking to develop system capabilities to ensure accuracy and completeness. These are currently being discussed with our service partners to understand delivery.

- It is expected that these adjustments will sought to be initiated from September onwards, but this will be confirmed over the next month.

AQ Financial Adjustments – Scope & Principles

- **What is the scope of these adjustments?**
  - Any Meter point reference number (MPRN) with a valid meter reading received within the AQ read window is considered eligible for the monthly AQ calculation irrespective of whether that MPRN is impacted with a defect or not.
  - Any defect that impacts the volume/energy calculation for an MPRN will have direct impact on the AQ calculation if this consumption is within the eligible period.
  - Once an AQ impacting defect is fixed and deployed into production, a data correction* is undertaken as part of the defect life cycle to ensure the volume/energy is updated to avoid impacts to the prospective monthly AQ calculation.
  - In an event where this data correction is not completed on time prior to execution of the AQ calculation process, this could result in incorrect AQ being calculated for those MPRNs impacted under that defect. All these AQ impacting defects and their affected MPRNs will fall into the scope of this analysis for adjustments.

- **Why is an adjustment required following the correction of AQ?**
  - Once the AQ/SOQ values are set live on the 1st of a month, these values are not expected to undergo any change due to their direct feed into the daily nationwide demand forecast (Gemini Interface).
  - Hence where an AQ/SOQ is set as Live with an inaccurate value, those MPRNs that have utilised these values for the Capacity charging will be eligible for a financial adjustment with the appropriate difference (debit or credit) where applicable. This adjustment will take into consideration the impact to the rate calculation and billing quantity (that uses SOQ).
  - It is worth highlighting that Commodity charging will not be adjusted as the incorrect allocation calculated using the inaccurate AQ values will be corrected by meter point reconciliation when actual readings are submitted by the shippers.
  - No Commodity rate adjustments will be issued, to avoid the need to do further adjustments to Amendment invoice charges for future reconciliations and adjustments which could continue to the Code Cut-Off Date (Line in the Sand).

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* Data Correction in this context refers to recording the accurate consumption for the affected period for those MPRNs marked under a defect

AQ Financial Adjustments – Scope & Principles

- **What were the principles followed to identify these adjustments?**

  - Class 1&2 MPRNs are impacted if any incorrect rolling AQ/SOQ value is utilised for deriving the pricing rates within the monthly Capacity charge calculation.
  - Class 3&4 MPRNs are impacted if the incorrect FY[+] AQ/SOQ value is utilised for deriving pricing rates and billing quantity within the monthly Capacity charge calculation
  - An MPRN is marked as impacted :-
    - if the AQ calculation period includes any day(s) where the consumption is inaccurate and has not undergone a successful data correction prior to it being utilised for calculating the AQ **(Or)**
    - if the AQ/FY AQ values are not re-calculated following a successful data correction prior to setting it as Live on 1st of a month (for Rolling AQ/SOQ) or 1st Apr 'XX (for FY AQ/SOQ) **(Or)**
    - if the AQ value set effective 1st Dec XX was <u>not</u> based on the AQ correction provided by the shippers
  - Financial adjustments will be calculated and issued to customers based on the billing adjustment principles presented to CoMC in August '20.

- **What procedure was followed to identify the impacted MPRNs?** (See Appendix for additional details)
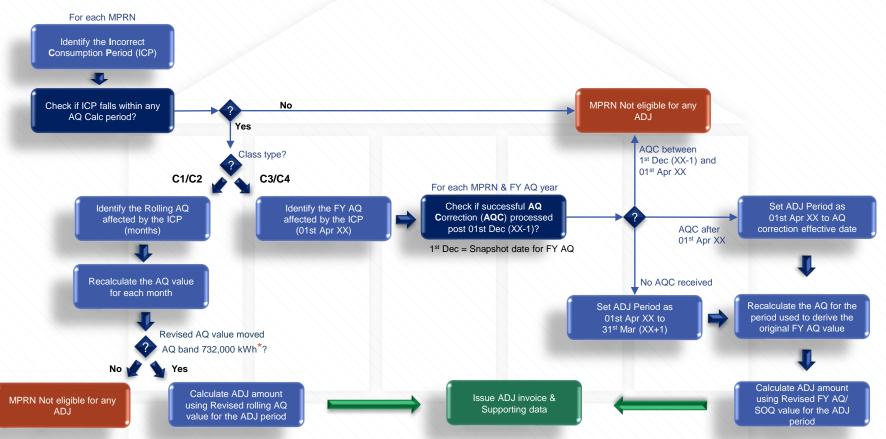
  Based on the adjustment principles defined above we:-
  - Identified **73** closed defects flagged as impacting AQ calculation since Nexus go live date
  - Of these 73 defects, 20 defects and 2 CR's were identified as having had a data correction[*] carried out following the deployment into production
    - Of these **22** defects/CR's, we identified 15 of those defects that had <u>not</u> undergone a successful data correction prior to the effective dates for the monthly rolling AQ or FY AQ (1st April '19/'20).
    - This led us to a finalised set of **15** defects impacting 121K MPRNs that need further low level analysis to determine those MPRNs that will require financial adjustment as per the business adjustment principles.

[*] Data Correction in this context refers to recording the accurate consumption for the affected period for those MPRNs marked under a defect

[+] **FY AQ** – Formula Year AQ is effective on 1st Apr 'XX based on the rolling AQ value live on 1st Dec previous year (referred as Snapshot date)

AQ Financial Adjustments – Scope & Principles

- **What will be done as part of low level analysis?** *(Explanation with a diagram is provided in the next slide)*

  - Xoserve has developed a set of business rules (referred as 'decision tree logic') to assist with the low level analysis of the 121K MPRNs
  - For each Class 3 and Class 4 MPRN,
    - we will identify if the affected consumption period falls within the AQ calc period used to derive the FY AQ/SOQ's eff. 01.04.2019
      - If 'No', then the MPRN is not eligible for any adjustment
      - If 'Yes', we will check if a successful AQ correction (Shipper requested) is processed from 01.12.2018 till 31.03.2019
      - If AQ correction is set effective on or before 1st Apr 2019 , then the MPRN will not be eligible for any adjustment
        - If AQ correction is set after 01st Apr 2019, then the ADJ period will be 01.04.19 till AQ correction effective date -1 Calendar day
        - If 'No AQ correction', then the ADJ period will be 01.04.2019 till 31.03.2019
      - Repeat the above steps for the FY AQ effective 01.04.2020 to identify the MPRNs & ADJ period
    - For the MPRN & ADJ period, re-calculate AQ/SOQ to calculate financial adjustments as applicable

  - For each Class 1 and Class2 MPRN,
    - We will identify if there are any rolling AQ values for which the affected consumption period falls within the AQ calc period
      - If 'No', then the MPRN will not be eligible for any adjustment
      - If 'Yes', we will recalculate the AQ value with revised consumption and check if revised value is above or below 732,000 kWh
        - If 'No', then the MPRN is not eligible for any adjustment
        - If 'Yes', we will define the ADJ period(s) for each MPRN
    - For each confirmed MPRN and ADJ period we will use the revised Rolling AQ/SOQ to calculate the financial adjustments as applicable
  - We have provided some examples in the appendix to demonstrate the outcome for an impacted MPRN once the above analysis is completed

Decision Tree Analysis – Flow diagram

For each MPRN

Identify the **I**ncorrect **C**onsumption **P**eriod (ICP)

Check if ICP falls within any AQ Calc period? **?**

— **No** → MPRN Not eligible for any ADJ

Yes

Class type? **?**

C1/C2 / **C3/C4**

C1/C2:
Identify the Rolling AQ affected by the ICP (months)

Recalculate the AQ value for each month

Revised AQ value moved AQ band 732,000 kWh*? **?**

No → MPRN Not eligible for any ADJ

Yes → Calculate ADJ amount using Revised rolling AQ value for the ADJ period

C3/C4:
Identify the FY AQ affected by the ICP (01st Apr XX)

For each MPRN & FY AQ year
Check if successful **AQ C**orrection (**AQC**) processed post 01st Dec (XX-1)?

1st Dec = Snapshot date for FY AQ

?

AQC between 1st Dec (XX-1) and 01st Apr XX → MPRN Not eligible for any ADJ

AQC after 01st Apr XX → Set ADJ Period as 01st Apr XX to AQ correction effective date

No AQC received → Set ADJ Period as 01st Apr XX to 31st Mar (XX+1)

→ Recalculate the AQ for the period used to derive the original FY AQ value

→ Calculate ADJ amount using Revised FY AQ/ SOQ value for the ADJ period

Issue ADJ invoice & Supporting data

***** For C1/C2 sites rolling AQ value is used to determine the pricing bands defined by AQ ranges. SOQ for these sites are provided by the shippers and hence are not impacted by incorrect rolling AQ values. Monthly Capacity charging will have impacts to the rate calculation if the revised AQ moves above or below 732,000 kWh where the pricing rates are not fixed unit values and are derived using constants defined in the pricing template.

High Level Analysis Stats - Defects analysed Vs MPRNs Impacted

DEFECT/ CHANGE	MPRNs Impacted by Defect	MPRNs Eligible for Adjustments*	METER CLASS(s) AFFETCED	SYSTEM FIX DEPLOYED DATE	AQ effective date Post Data Correction	FYAQ SNAPSHOT 01.04.2019 UPDATED	FYAQ SNAPSHOT 01.04.2020 UPDATED	FYAQ ADJUSTMENT(s) REQUIRED
1089	595	404	4 & 3	11/01/2019	01/11/2019	No	Yes	Yes
1122	726	726	4	17/05/2019	01/12/2019	No	Yes	Yes
1146	106,055	82,668	3	06/12/2018	01/11/2019	No	Yes	Yes
1207	9	8	Class Change 1-4	05/04/2019	01/11/2019	No	Yes	Yes
1240	25	25	2	10/05/2019	01/11/2019	No	Yes	Yes
1321	169	17	4	17/05/2019	01/11/2019	No	Yes	Yes
1341	14	14	3	28/05/2019	01/11/2019	No	Yes	Yes
1377	595	595	4	12/08/2019	01/12/2019	No	Yes	Yes
1394	77	77	All	13/09/2019	01/12/2019	No	Yes	Yes
1411	771	771	1, 2, 3	12/08/2019	01/09/2019	No	Yes	Yes
1429	774	774	3	17/01/2020	01/03/2020	No	Yes	Yes
1449	170	20	4	24/01/2020	01/03/2020	No	Yes	Yes
1463	606,085	35,114	3	06/12/2019	Multiple Dates	No	Yes	Yes
61866	227	227	4	28/02/2020	01/05/2020	No	No	Yes
1488	144	144	3 & 4	13/01/2020	01/03/2020	No	Yes	Yes
1334	40,516	0	All	23/08/2019	01/03/2020	No	Yes	NA
1415	115	0	1 & 2	18/10/2019	01/12/2019	No	Yes	NA
1458	15	0	4	08/05/2020	No AQ Correction	N/A	N/A	No
1468	23	0	3 & 4	06/12/2019	01/03/2020	No	Yes	NA
1492	1,272	0	N/A	07/02/2020	WC Correction	N/A	N/A	No
XRN4676	6,060	0	4	01/02/2019	01/04/2019	Yes	Yes	No
XRN4740	13,451	0	4	16/02/2019	01/03/2019	Yes	Yes	No
TOTAL	777,888	121,584*						

Further details on these defects are mentioned in the Appendix

* Please note these 121K MPRNs are identified as impacted following high level analysis. These will be undergoing further low level assessment to finalise those MPRNs that will require financial adjustments.

Next Steps

- Share the adjustment methodology and adjustment principles with the customers :– *Aug 2020 CoMc*

- Complete the low level assessment and confirm the MPRNs eligible for financial adjustments :– *Targeted end of Aug 2020*

- Plan for review and approval of the outcome from the low level assessment with DN's and shippers :– *During Sep 2020*

- Submit Comms to the impacted customers along with the details of MPRNs and financial values prior to the issue of the actual invoices :– *Targeted Q3 2020 (FY)*

- Issue Invoice with adjustment charges and associated supporting information :– *Targeted Q3 2020 (FY)*

- Prepare a plan to assess live defects that have similar impacts to AQ calculation process :- *Ongoing*

- Progress updates will be shared in the regular CoMc sessions as well as on the AQ taskforce page on Xoserve.com

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Appendix
Additional Information

High Level Analysis - Summary

Analysis Outcome	Financial ADJ needed?	Defects
Data correction was not undertaken before the Rolling AQ value or FY AQ was effective	**Yes**	**15**
Successful Data correction done before FY AQ was effective on 01.04.2019	No	17
No Data correction was required as part of the defect life cycle	No	41
Total		73

This table summarises the findings from the high level analysis carried out on the historic defects categorised as impacting 'AQ Calculation' since Nexus Go live

Analysis Outcome	Financial ADJ needed?	Impacted MPRNs
Defect relates to having incorrect consumption recorded when a site became class 3.These MPRNs became class 3 after 01.12.18 snapshot was taken for FY AQ effective on 01.04.19 and hence AQ values for these MPRNs are not impacted.	No	594,358
Did not impact FYAQ effective on 01.04.2019 or 01.04.2020 as the data correction was carried out before the effective date	No	40,516
Successful Data correction done before FY AQ was effective on 01.04.2019	No	19,856
No data correction applied as part of the defect life cycle	No	1,574
Data correction was not undertaken before the rolling AQ/ FY AQ was effective	**Yes**	121,584
Total		777, 888

This table summarises the findings from the high level analysis carried out on the impacted MPRNs under each defect to determine their eligibility for financial adjustments

Note: Current open defects impacting AQ calculation will be undergoing similar assessment once this adjustment methodology is approved. Please note the above MPRNs do not reflect live defect volume.

22 AQ defects/CRs analysed

Defect No.	Issue Description	Lifecycle Status	Meter Class(s) affected	MPRNs impacted by defect	MPRNs Eligible for Adjustments
1089	The reconciliation process is considering the 'Round the Clock count' (TTZ) on the final read (FINX) when the FINX read fulfills the transfer read request. This in creating an incorrect volume between OPNT and FINX read.	Closed	3 & 4	595	404
1122	Multiple RGMA reads (Final Exchange and Report read) recorded in UKLink for the same day is resulting in incorrect one day reconciliation.	Closed	4	726	726
1146	Following a Class change from any Class to a Class 3, where an estimated class change read is calculated following the receipt of an actual read, the volume and energy is not calculated between the estimated Class change read and the next actual read.	Closed	3	106,055	82,668
1207	Incorrect consumption and energy calculated following a Class change and Convertor removal/exchange. Calculation of consumption to the Convertor removal read instead of calculating back to the Class change read.	Closed	Class change 1-4	9	8
1240	When Xoserve user has entered reads for Class 2 meter points on behalf of the customer, the read has not created a consumption or energy	Closed	2	25	25
1321	Volume is not calculated correctly when Class 4 read (via UMR) is suppressed by asset update (FICC) read causing 1 day reconciliation	Closed	4	169	17
1341	Following the replacement of class change read from class 4 to class 3 the consumption recorded against the class 4 period is being calculated incorrectly.	Closed	3	14	14
1377	Following submission of a meter reading with a 'Round the Clock count' (TTZ), the consumption and energy calculated is a negative value, should be a positive value	Closed	4	595	595
1394	Xoserve User, on behalf of the Shipper, is unable to replace a Class change read or shipper transfer read through read entry screen	Closed	All	77	77
1411	The monthly AQ calculation process had been using the incorrect energy to calculate the AQ following an asset update	Closed	1, 2 & 3	771	771
1429	Following an RGMA update, a reconciliation and Check To Check reconciliation has been calculated. Only the Check to Check reconciliation should be triggered.	Closed	3	774	774

22 AQ defects/CRs analysed continued..

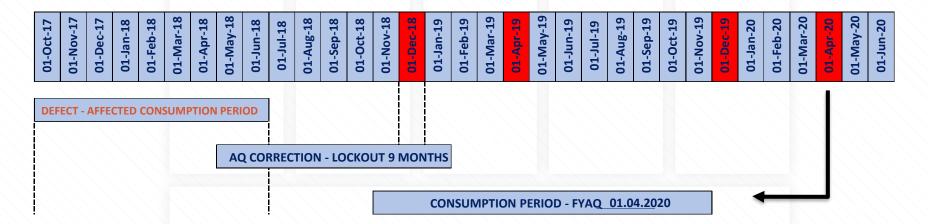| Defect/ Change No.	Issue Description	Lifecycle Status	Meter Class(s) affected	MPRNs impacted by defect	MPRNs Eligible for Adjustments
1449	Following a Class change from Class 2 to 4, where a meter update is received during the period of Class 4, the energy calculated is incorrect.	Closed	4	170	20
1463	Following a Class change from any Class to a Class 3, where an estimated class change read is calculated following the receipt of an actual read, the volume and energy is not calculated between the estimated Class change read and the next actual read.	Closed	3	606,085	35,114
61866	While deriving the FYAQ/SOQ values for 01/04/2020 during class change effective on 01st, 2nd and 3rd of Jan 2020, instead of considering the rolling AQ/ SOQ of 01/12/2019 values, the previous year values (01/12/2018) have been incorrectly considered	Open	4	227	227
1488	Volume calculated incorrectly where a 1 day consumption adjustment recorded between shipper transfer effective date and device removal read (FINX or FINC)	Closed	3 & 4	144	144
1334	Following a Class change, any read inserted in the old class period, the subsequent read date is being populated as class change read. Re-rec should only be carried out once the first reconciliation has processed.	Closed	All	40,516	0
1415	When an Xoserve user manually processes an actual read, the consumption and energy is being incorrectly calculated as zero.	Closed	1 & 2	115	0
1458	Where a non-opening read is inserted between two reads (reads received via the UBR file) and where the next read has a round the clock (TTZ) count of 1, the volume is calculated incorrectly	Closed	4	15	0
1468	On receipt of a replacement read where Check to Check reconciliation has not been processed, incorrect volume & energy is calculated	Closed	3 & 4	23	0
1492	When a Winter Consumption (WC) correction is in progress, receipt of another WC correction for the same effective date should be rejected, currently it is being accepted.	Closed	N/A	1,272	0
XRN4676	When a cyclic read is present for the same date as a Final read, for the outgoing shipper system is creating a incorrect energy for the one day between the cyclic read and the transfer read.	Closed	4	6,060	0
XRN4740	For sites with AMR fitted the AQ value calculated is incorrect, as both cyclic and sites visit reads are classed as valid reads. XRN4740 has changed the AQ calculation logic to identify energy between each cyclic read as well as the energy calculated between the Check to Check. Where any cyclical reads energy is identified, between two Check to Check reads, then only the energy for the Check to Check will be used for the AQ calculation	Closed	4	13,451	0

Example 1 – MPRN1

AFFECTED CONSUMPTION PERIOD: 26.10.2017 to 01.06.2018 (Class 3)

FYAQ – 01.04.2019 (01.12.2018):   This was an AQ correction/corrected value effective in May'18
FYAQ – 01.04.2020 (01.12.2019):   Start Read date: 05.11.2018; End Read date: 04.11.2019

OUTCOME: **No Adjustment Required**

Inaccurate consumption period is not considered for either snapshot

Example 2 – MPRN2

AFFECTED CONSUMPTION PERIOD: 22.02.2019 to 06.08.2019 (Class 3)

FYAQ – 01.04.2019 (01.12.2018):   Start Read: 25.05.2017, End Read: 06.09.2018
FYAQ – 01.04.2020 (01.12.2019):   Start Read: 24.08.2018, End Read: 06.08.2019
FYAQ APPLIED 01.04.2020:   Start Read: 21.02.2019, End Read: 05.02.2020
AQ re-calc in March'20 post data correction
OUTCOME: **No Adjustment Required**

Snapshot for 01.04.20 is re-calculated post data correction

Example 3 – MPRN3

AFFECTED CONSUMPTION PERIOD: 09.04.2018 to 16.04.2018 (Class 3)
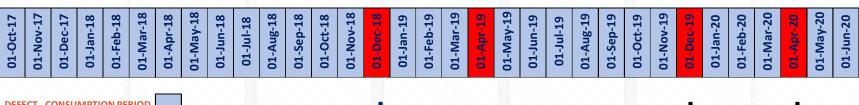
FYAQ – 01.04.2019 (01.12.2018):   01.12.2017 to 28.10.2018
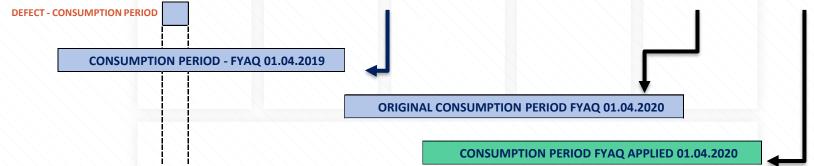**FYAQ – 01.04.2020 (01.12.2019):**   06.11.2018 to 05.11.2019
FYAQ APPLIED 01.04.2020:   02.02.2019 to 03.02.2020 (re-calc in Mar'20 post data correction)

OUTCOME: **Adjustment Required**

Inaccurate consumption period impacted 01.04.2019 FY AQ snapshot

Example 3 – MPRN3 cont.

FYAQ/SOQ – 01.04.2019 (01.12.2018):   AQ: 2,066,209 kWh
                                                 SOQ: 18,379 kWh

Start Read/Date: 992351 - 01.12.2017
End Read/Date: 1162593 - 28.10.2018
Current EUC: 13892 (Profile: 8000060274 – Load Factor 0.308)
Class: 3

Total Energy (class 4):   1392059.0407 (01.12.2017 – 08.04.2018)
Total Energy (class 3):   533663.3830 (09.04.2018 – 28.10.2018)
Total Energy: 1925722.4237
CWAALP: 320.424643

REVISED AQ (Total Energy*365/CWAALP):   2,193,616 kWh
REVISED SOQ: (AQ/365/Load Factor):   19,512 (+1,133) kWh

FINANCIAL ADJUSTMENT PERIOD:
01.04.2019 to 31.03.2020   **£35.04** for the month Apr '19 (actual)
                            £420.44 for the ADJ period (estimated for a year)