

## PROCESSES

Effective process management is essential to ensure accuracy of data flows and information.

A number of established processes exist within the Gas Industry, facilitating transfer of ownership and Supply Point updates in order to maintain the Gas Supply Point Register.

There are five key processes that we'll focus on here. They are:

- Supply Point Administration (SPA)
- Asset Updates (RGMA)
- Entering a Meter Read
- Invoicing
- Annual Quantity (consumption) Review

Correla manage these processes on behalf of Xoserve, therefore, when Xoserve is mentioned throughout this document, these processes are carried out by Correla on Xoserve's behalf.

A decorative graphic in the bottom right corner consisting of several overlapping, stylized arrows pointing upwards and to the right. The arrows are drawn with thin, dark lines and are layered to create a sense of depth and movement.

## SUPPLY POINT ADMINISTRATION (SPA)

This relates to all changes to contractual arrangements for a supply point.

This covers a vast range of activities and changes which are triggered by a variety of reasons, for instance, a change of occupier, change of supplier or to update supply point information.

The most common change is when a consumer changes their gas supplier and their details must be updated in our systems. This is known as the Nomination & Confirmation process.

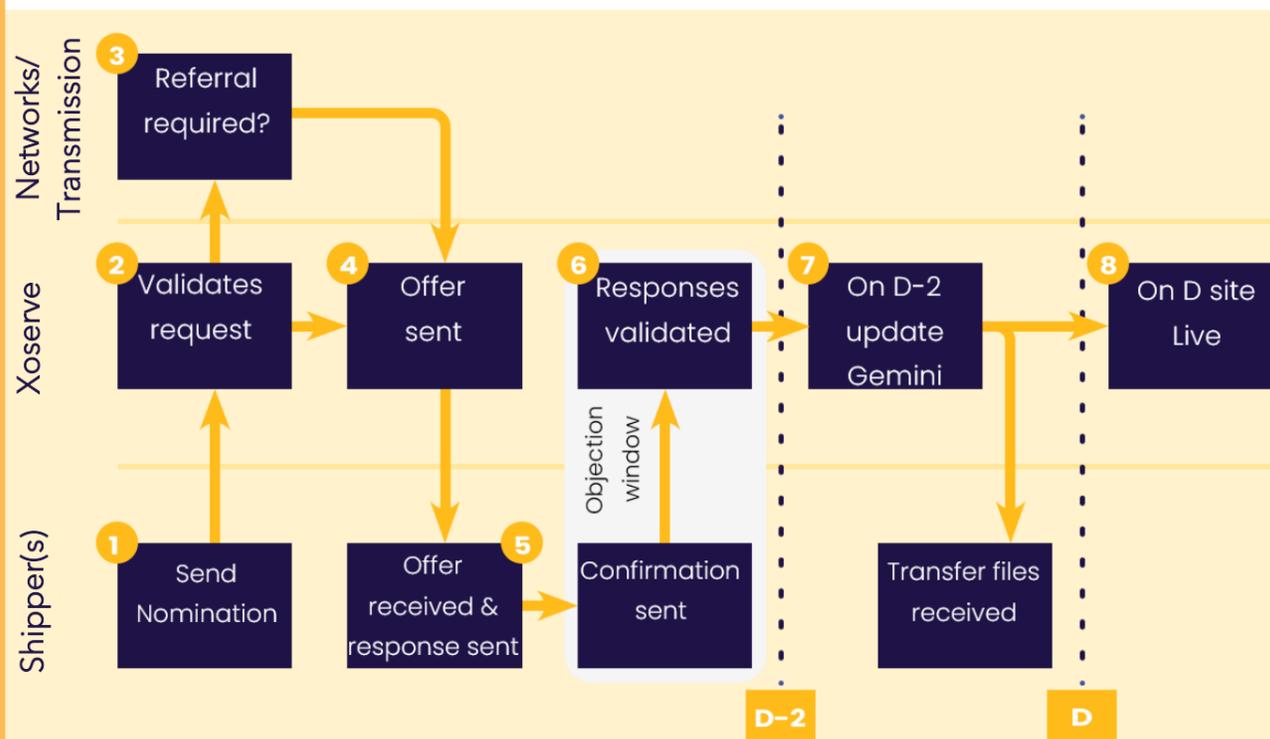
### Overview of Nomination & Confirmation Process:

Each time a change is required, the initiator of the change must submit a request to Xoserve via the UK Link system. A series of approvals and file flows then takes place to enact the change and update the system appropriately, ensuring that it always holds up to date information.

Other changes include:

- Change of Class
- Capacity change - a Shipper can request an increase or decrease to the Supply Offtake Quantity (SOQ) of a site
- Meter read frequency change
- Change of Meter Asset Manager (MAM)
- Change in Smart Metering Service Operator
- Shipper withdrawal

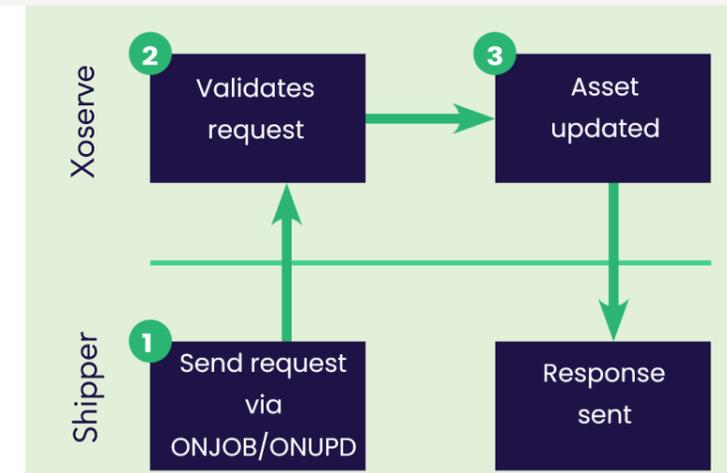
As it's the most common, we'll use the Nomination & Confirmation process as an example to illustrate how data updates are controlled.



## ASSET UPDATES (RGMA)

The Review of Gas Metering Arrangements (RGMA) process manages all changes relating to meter assets for the gas sector.

This includes changes to Meter Asset Providers (MAPs) and asset updates. The process is managed exclusively between Shippers and Xoserve, via a file flow process in the UK Link system.



1. The ONJOB/ONUPD files are used by the Shipper for all RGMA activity and are flowed to and from the Central Data Service Provider (CDSP) via the Information Exchange (IX).
2. Validations are carried out to ensure the Optional/Mandatory fields are filled in with the correct data. If the validations fail, the file is rejected, and the relevant rejection reason is sent back to the Shipper. If validations pass, the file is accepted. Asset details are updated, and a response file is flowed back to the Shipper.
3. The details are updated, and the files flowed back to the Shipper.

1. Shipper sends NOM file to nominate that they want to take on the site. This is applicable to sites with AQ over 73,200 kWh.
2. On receipt of a Nom file, Xoserve will undertake validations against all submitted details to ensure the request is valid and all fields are completely correctly. The request will then either be accepted or rejected.
3. If following validation, the file contains any errors, then the request will be rejected. The Shipper will need to check and revise the rejection. They will then need to resend the data.
4. For accepted Nominations and accepted Referrals, UK Link calculates the relevant transportation charges and provides an Offer automatically.
5. In this phase the Shipper will send in Confirmation requests to initiate the switching process. For a Small Supply Point (SSP with AQ less than 73,200kWh) this is where the process starts.
6. UK Link undertakes validations to ensure the request is valid and all fields have been supplied correctly.
7. UK Link will automatically send flows to all relevant parties and the Objection window will open. The Objection window will close on the Confirmation Date D-2 Business Days or the file submissions date D+7 Calendar Days, whichever comes first. Assuming no objection is met, the site will await D-2.
8. On D-2 Gemini is updated and the files to confirm transfer of ownership are sent to all relevant parties.

There are various circumstances where permission needs to be granted by the Networks, termed a referral. The referral is accepted, rejected or amended in the Xoserve Services Portal by the relevant Network and responses are automatically issued to the relevant parties by the system.

## READ SUBMISSION PROCESS

The frequency with which meter reads must be submitted varies depending on the classification of the meter.

For Class 1 the Daily Metered Service Provider (DMSP) is responsible for submitting reads via UK Link. For Class 2, 3 and 4, Shippers are responsible.

**Class 1** meters are remotely read daily. Reads are submitted by the Daily Metered Service Provider (DMSP) directly into the system using the DLC file. Daily Reads are received on D+1 for the relevant gas flow day D, ensuring that we retain an accurate picture of usage for the UK's largest consuming sites. The read submission performance target for Class 1 meters is 97.5% (daily target).

**Class 2** meter reads are also submitted daily, but this time it's via a file provided by the Shippers. These reads are submitted into the UK Link system using the Unbundled Daily Read (UDR) file. The read submission performance target for Class 2 meters is 97.5% (daily target). For Class 1 & 2 meter points, reads which are received within closeout (GFD+5) feed allocations, i.e. Gemini and those outside closeout feed reconciliation.

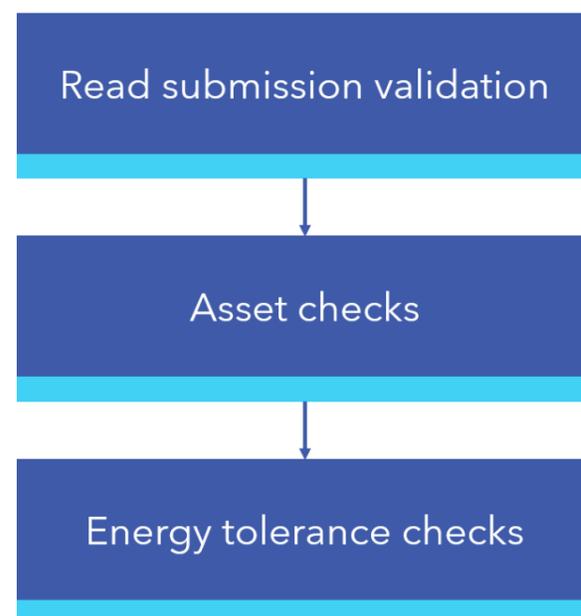
**Class 3** meter reads are sent by Shippers using the Unbundled Batch Read (UBR) file. Class 3 meters might be read daily, but those reads are batched and sent in bundles of weekly, fortnightly or monthly. These reads always feed reconciliation. The current read submission window for Class 3 is the 10th Calendar Day of Month +1 for non MOD0700 Supply Meter Points (EUC 2 to 9).

For MOD0700, cyclic reads for Class 3 Supply Meter Points in EUC 01 have to be submitted by Read Date (D) + 10 calendar days to be considered valid. The read submission performance target for Class 3s is 90% (monthly target).

**Class 4** supply points are read less frequently - monthly, half yearly or yearly - with reads submitted by Shippers using the Unbundled Meter Read (UMR) file. These reads always feed reconciliation. The read submission deadline for Class 4 meter reads is 25 Business Days after the read date. The read submission performance target for Class 4 meters is 90% per month for monthly MRF sites, 70% (in 12 month period) for SSP annual read sites and 90% (in 12 month period) for Large Supply Point (LSP) annual read sites.

### Protecting data quality

Because the data that we manage through the system is sensitive and ultimately drives consumer bills and gas allocation, it's vital that read submissions are carefully controlled with the right level of user authority. Data quality must be protected to ensure the smooth running of data flows throughout the industry and help reduce unnecessary reconciliation and customer complaints. All files submitted into the system are therefore subject to validation checks prior to the data being accepted.



### File level validation

The first stage in the validation process is submission of a data file via the IX. Any discrepancies in the file formats or fields populated are rejected and the originator must check the file, correct the error and resubmit the file.

RECORD/ FIELD_NAME	OPT	DOMAIN	LNG	DEC	DESCRIPTION
The record name must match what is in the file format.	<b>Optional (O)</b> - it is not obligatory to include the data item. <b>Mandatory (M)</b> - the data item must be included. <b>Conditional Mandatory</b> - additional fields can become Mandatory depending on the file and input.	<b>T</b> = Text - all text fields will be enclosed in double quote marks (""). <b>N</b> = Numeric. <b>D</b> = Date (YYYYMMDD). <b>M</b> = Timestamp.	Maximum number of characters allowed.	Maximum number of decimal places allowed.	Gives more information about the field.

File Formats are held in UK Link Documentation Library, [here](#).

### Read validation: Energy tolerance check

Once data has gone through read submission and asset checks, the UK Link system then performs energy tolerance checks to ensure the usage volumes look appropriate for the meter type and AQ band for each meter.

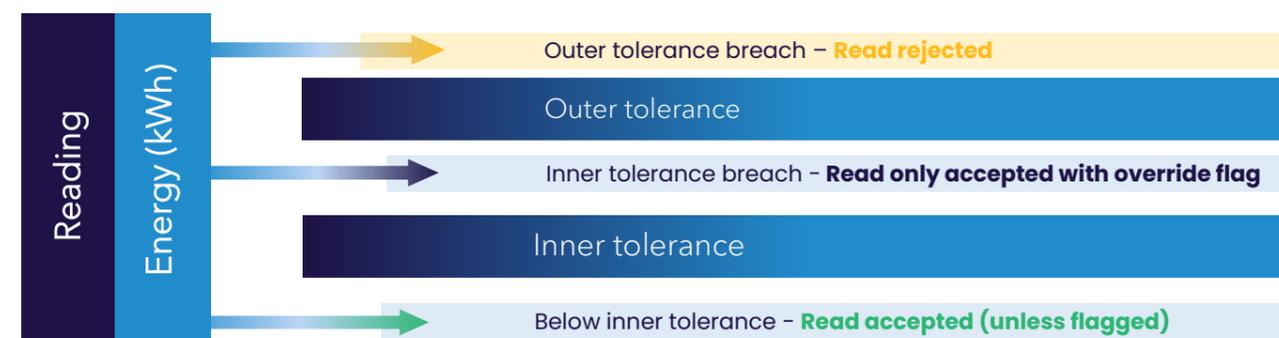
The system calculates the energy from the data provided and then cross references that figure with the permitted tolerance for the relevant AQ band for each meter.

Where the usage falls below the inner tolerance level, the read is accepted for system update.

Where the inner tolerance is exceeded but the figure falls within the outer tolerance threshold, the Shipper can override the breach using the 'override flag'. The reading will then be accepted.

Where the override flag has been set by the Shipper, but the figure has not breached the inner tolerance level, the read is rejected. This is to avoid bulk override.

If the outer tolerance threshold is breached, the read is automatically rejected.



### Current tolerances for Class 1 & 2 Meter Points

Validation bands that will be applied for each of the SOQ Bands for Class 1 & 2 sites:

Lower AQ Band	Upper AQ Band	Read Accepted without Tolerance flag (% of SOQ)	Read Accepted with Tolerance flag (% of SOQ)	Read Rejected (% of SOQ)
0	1	0% - 2000000%	> 2000000% - 7000000%	> 7000000%
2	200	0% - 10000%	> 10000% - 25000%	> 25000%
201	500	0% - 4000%	> 4000% - 10000%	> 10000%
501	1000	0% - 2000%	> 2000% - 5000%	> 5000%
1001	5000	0% - 400%	> 400% - 2000%	> 2000%
5001	10000	0% - 200%	> 200% - 500%	> 500%
10001	20000	0% - 150%	> 150% - 400%	> 400%
20001	73200	0% - 300%	> 300% - 600%	> 600%
73201	732000	0% - 250%	> 250% - 550%	> 550%
732001	2196000	0% - 200%	> 200% - 500%	> 500%
2196001	29300000	0% - 150%	> 150% - 450%	> 450%
29300001	58600000	0% - 100%	> 100% - 400%	> 400%
58600001	999999999999	0% - 100%	> 100% - 350%	> 350%

### Tolerances for Class 3 & 4 Meter Points only

Validation bands that will be applied for each of the AQ Bands for Class 3 & 4 sites:

Lower AQ Band	Upper AQ Band	Read Accepted without Tolerance flag (% of AQ)	Read Accepted with Tolerance flag (% of AQ)	Read Rejected (% of AQ)
0	1	0% - 2000000%	> 2000000% - 7000000%	> 7000000%
2	100	0% - 20000%	> 20000% - 45000%	> 45000%
101	200	0% - 10000%	> 10000% - 25000%	> 25000%
201	500	0% - 4000%	> 4000% - 55000%	> 55000%
501	1000	0% - 2000%	> 2000% - 25000%	> 25000%
1001	5000	0% - 400%	> 400% - 7000%	> 7000%
5001	10000	0% - 200%	> 200% - 2000%	> 2000%
10001	20000	0% - 150%	> 150% - 1100%	> 1100%
20001	73200	0% - 300%	> 300% - 1100%	> 1100%
73201	732000	0% - 250%	> 250% - 1000%	> 1000%
732001	2196000	0% - 200%	> 200% - 1000%	> 1000%
2196001	29300000	0% - 150%	> 150% - 700%	> 700%
29300001	58600000	0% - 100%	> 100% - 400%	> 400%
58600001	999999999999	0% - 100%	> 100% - 350%	> 350%

### How to calculate energy

The equation below is the way in which we calculate gas usage from the meter reads received. The resulting number is then used to calculate consumer bills.

- Correction factor = 1.02264 is a standard Correction Factor, however sites over an AQ of 732,000Kwh have site specific values.
- Calorific value = changes daily based on Local Distribution Zone (LDZ). Average values are used for non-daily reads.
- Conversion factor = 3.6.
- Imperial factor = 2.83. Imperial meters measure in thousands of cubic feet. If different imperial device is used, the imperial factor will change.
- Volume = Read 2 - Read 1.

#### Metric Meter:

$$\text{Energy (kWh)} = \frac{((\text{Read 2} - \text{Read 1}) \times \text{Correction Factor})^* \times \text{Calorific Value}}{\text{Conversion Factor}}$$

#### Imperial Meter:

$$\text{Energy (kWh)} = \frac{((\text{Read 2} - \text{Read 1}) \times \text{Correction Factor})^* \times \text{Calorific Value} \times \text{Imperial Factor}}{\text{Conversion Factor}}$$

Read 1	Read 2	Volume	Correction Factor	Calorific Value	Conversion Factor	Energy (kWh)
4569	4662	93	1.02264	39	3.6	1030.3098
25745	25887	142	1.02264	39	3.6	1573.1612
1254	1278	24	1.02264	39	3.6	752.458512
12234	12312	78	1.02264	39	3.6	864.1308
5875	5917	42	1.02264	39	3.6	1316.802396
11745	11867	122	1.02264	39	3.6	1351.5892

\*UNC refers to metered volume rather than volume. This means that the Correction factor has already been applied to the volume and would not be required again in the calculation.

## ANNUAL QUANTITY (AQ)

Annual Quantity, or AQ, is measured in kWh and tells us the amount of gas that a site is expected to use in one year.

It's important as we use it to calculate gas allocation, site capacity (also known as Supply Offtake Quantity, or SOQ) and as an input to invoicing.

AQ is also a key factor in confidently validating meter readings. The AQ band dictates relevant upper and lower tolerance thresholds, providing data quality control and ensuring that no spurious readings make it into Xoserve's systems. The new AQ goes live on the 1<sup>st</sup> of the following month.

[Click here for more information on AQ.](#)

When a valid read is accepted, the AQ calculation is triggered, from which the following process starts:

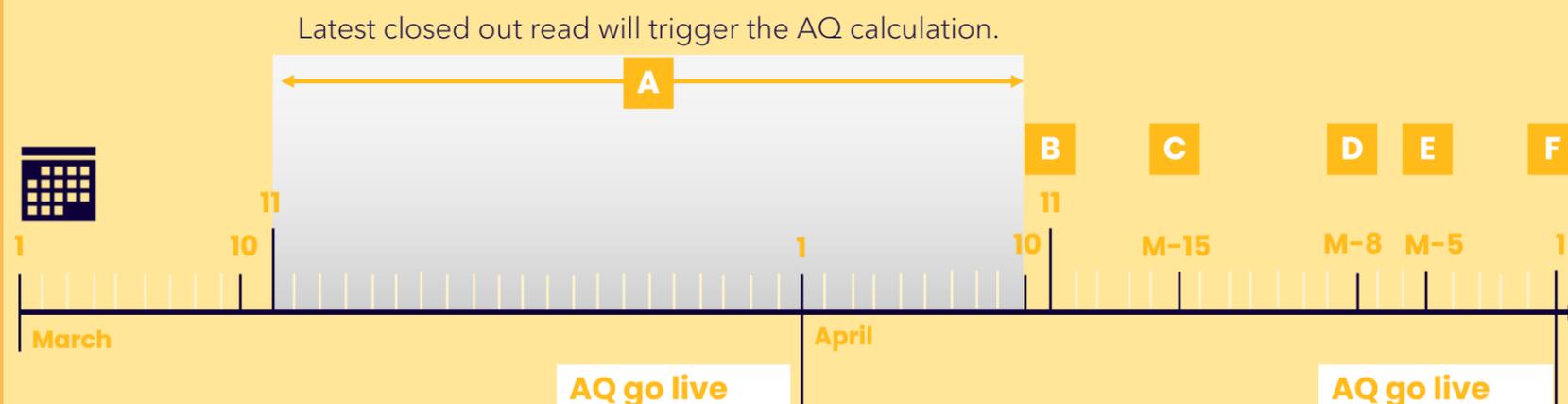
- A) Any valid read received on or before 10th of each month will trigger an AQ calculation.
- B) On the 11th of each month, the AQ calculation is produced. Ideally, 365 days of data is required to produce the calculation, with a minimum of 9 months - and maximum of 36 months - data needed.
- C) M-15 is the AQ correction closeout window. Any corrections received after this point are processed the following month.
- D) M-8 is the correction cancellation closeout window. Requests to calculate AQ can be cancelled up until this point. After this date, the system will apply the AQ correction.
- E) M-5 is when the AQ notification (NRL) is sent to Shippers, providing detail either of the revised AQ, or where the revision has failed.
- F) If the AQ is updated by an automated process, this will continue every month. Where an AQ correction is successfully submitted, a backstop date is created. After this point, another AQ correction cannot be made for 9 months - please note the backstop date applies for AQ correction only.

### Reconciliation

Receipt of a valid meter read also triggers the reconciliation process. Reconciliation relies on meter reads, which is important for billing. It's also an important element in reducing the amount of unidentified gas (UIG) in the network, as by constantly updating our systems with actual meter reads, we stand to better allocate usage across the country.

Activities that might trigger a reconciliation include:

- **Class 1 & 2 supply points** - actual meter read received following a period of estimated reads. They are only Reconciled for any activity outside of Closeout (GFD+5).
- **Class 3** - batch of actual meter reads received.
- **Class 4** - actual meter reads received (frequency varies dependent on specific site requirements).
- **RGMA activity** - see page 3.
- **Shipper Transfer/Class Change/LDZ Change activities** - Which trigger an estimated meter read.



# INVOICING

Xoserve are responsible for invoicing on behalf of Networks. Access to accurate and regular meter readings is crucial to billing accuracy.

We issue invoices to Shippers as electronic files, using the IX network. In addition to the main invoice, we also provide more detailed supporting information that demonstrates how the invoice has been calculated, in supporting information files.

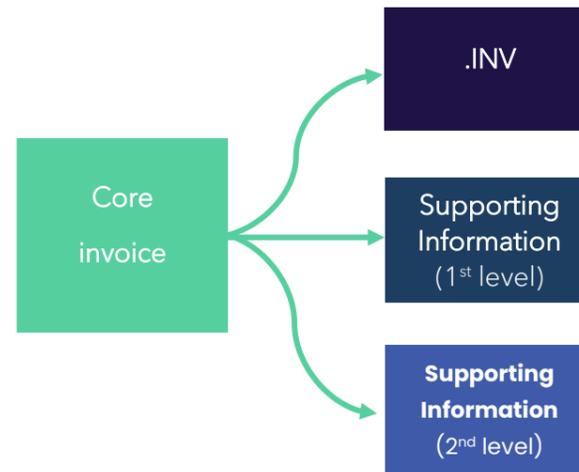
The [Xoserve Comprehensive Invoices and Charge Types document](#) defines the supporting files that are available for each type of invoice, as this varies.

The invoice file (.INV) contains details of charge types and charge values. All invoice types have an associated .INV files. The supporting information varies, depending on the invoice type.

For **Class 1 & 2** sites, charge information is supplied at supply meter point (SMP) level.

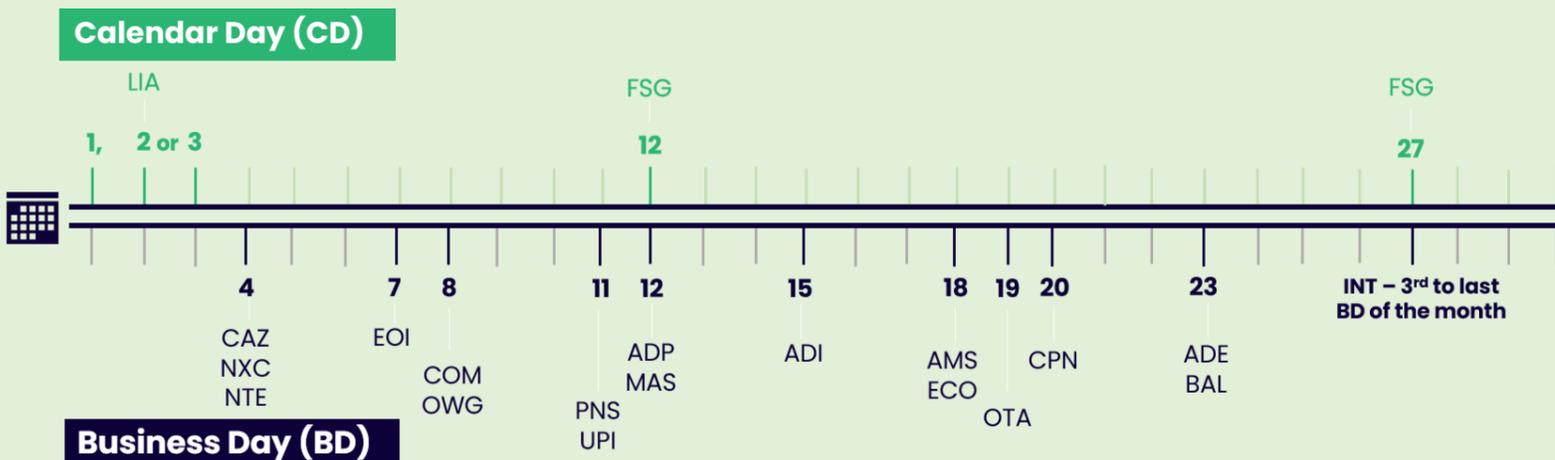
For **Class 3 & 4** sites, charge information is aggregated for core invoices. More detailed charge information is then supplied by supply meter point within the 2<sup>nd</sup> Supporting Information file.

Core invoice	Invoice	Supporting information 1 <sup>st</sup> level	Supporting information 2 <sup>nd</sup> level
COM	Commodity	COM	COI
CAZ	Capacity	ZCS	CZI
AMS	Amendment	ASP	AML



## Invoicing timeline

The timeline shows which Calendar Day (CD) or Business Day (BD) that scheduled invoices are issued and shows a typical monthly billing cycle. All invoices are issued from Xoserve to Shippers.



## Get in touch

We know how important it is to know when to expect invoices and to ensure you fully understand the information you receive. That's why we have a number of specialist teams that can help you with any invoicing queries.

If you would like to raise a query relating to invoicing, please [raise a support request here](#). We will then put you in touch with the right team.

Item	Meaning
ADE	Energy Balancing Emergency Charges
ADI	USRV Incentives Invoice
ADP	Dataloggers Invoice
AML	Core Amendment Invoice Supporting Information
AMS	Core Amendment Invoice
ASP	Core Amendment Invoice Supporting Information
BAL	Energy Balancing Invoice (EBI)
CAZ	Core Capacity Invoice
COI	Core Commodity Individual SMP Supporting Information
COM	Core Commodity Invoice
CPN	Compression Invoice
CZI	Core Capacity Individual SMLP Supporting Information

Item	Meaning
ECO	NTS Entry Commodity Invoice
ECI	DNI Exercise & Option Invoice Supporting Information
FSG	Failure To Supply Gas
INT	Interest Invoice Supporting Information
LIA	Liabilities Invoice Supporting Information
MAS	Meter Assets Invoice
NTE	NTS Entry Capacity Invoice File
NXC	NTS Exit Capacity Invoice
OTA*	Optional NTS Commodity Tariff Adjustment Invoice
OWG	Own Use Gas Invoice
PNS	Prime and Subs Invoice Supporting Information
UPI	User Pays (Type 1) Supporting Information
ZCS	Core Capacity Supporting Information

You can find more detailed information in our Invoicing e-learning [here](#).