

Business rules to optimise the use of AQ amendment system capacity

Objectives

1. Ensure shippers' daily allowances are managed such not to breach system capacity (DSC). Xoserve will calculate the DSC on an annual basis.
2. Maximise use of the capacity available in a transparent & non discriminatory manner.
3. Maximise use of all capacity.
4. Subject to practicalities, manage utilisation of daily unused capacity to incentivise Shippers to submit amendments throughout the amendment window.

Rules

Constraints

1. **Maximum MPs per file**, i.e. maximum file size (MFS) = [20,000] MPs
2. **Maximum MPs per day** submitted in all files by a per shipper in a day = the daily system capacity (DSC)
3. **Daily system capacity** (DSC) = [250,000]
4. **Shipper daily allowance** (MPs per day) = SDA = [predefined values for each shipper variable by NDM portfolio size as determined on a defined day, or 500 AQ Amendment submissions or a Shippers total portfolio where less than 500]
5. xoserve will process **whole files only and will neither partially process, nor split files that cannot be processed within [a] the shipper's remaining daily allowance or [b] the remaining total system daily capacity**
6. **Files must be received by an agreed deadline** to be included in a shipper's daily allowance; this deadline is proposed to be 5pm.

Processing rules

1. Processing a shipper's daily allowance:

- Each shipper's daily allowance will always be processed in full (subject to age and size of files a Shipper has submitted) on each day the process runs.
- A shipper's files will be accepted and prioritised in file age order (oldest first), so where the daily allowance is breached for processing files (up to 250,000 meter points), files will "roll over" and be processed ahead of any files submitted and accepted in the next relevant processing day (assumed to be the next Business Day, as defined in the UNC).

2. To maximise utilisation of unused daily system capacity:

- At any time in the scheduled runtime when all files within every shipper's daily allowances have been processed, files from any shipper (who has submitted more than their daily allowance on the day or preceding days) will be processed via an appropriate method by giving preference to shippers who thus far have used the most of their total allowance.

File rejection reasons

- 1 Maximum file size exceeded:** The number of MPs in a file exceeds max file size [20,000]
- 2 Maximum MPs per day exceeded:** Where a Shipper has submitted more than 250,000 meter points into the process on a Business Day newest dated files will be rejected.
- 3 Insufficient capacity:** Subject to rules governing utilisation of unused capacity, there is going to be insufficient capacity left in the remaining AQ amendment processing schedule to process the file from the shipper.

MI and Communication

1. Daily, throughout the amendment window:

- Monitor for each shipper the portion of their total allowance that has already been processed by the end of the previous day.
- Monitor the overall capacity available in the remaining AQ amendment processing schedule.

2. Periodically, throughout the amendment window, notify each shipper of...

- On exception: report any file that was not included in a shipper's daily allowance and has not been processed via unused system capacity within [5] days of submission.

Approach to managing utilisation of unused capacity

Rules:

Each day where un-used processing capacity exists after processing each Shipper's submissions in line with their daily allowance, unused capacity will be utilised by processing files from shippers who still have files to process for that day or previous days, giving preference to the shippers who, at the end of the previous day, had thus far used the highest portion of their total allowance for the whole window. Files from these shippers would be processed in time received order.

If the selected shipper's next oldest file exceeds the remaining unused capacity then either

[a] Select the next file from the same shipper, holding over the oldest dated file until the next day of spare capacity

[b] Select the next shipper under the same criteria

On the first day of the window, unused capacity will be utilised by the oldest files first (those received first by Xoserve).

Worked examples:

For simplicity assume AQ amendment window lasts 100 days, and all volumes are in 1,000s (Ks)
System daily capacity = 25 and has been allocated to four shippers as follows....

Shipper 1

Shipper Daily allowance: SDA1 = 10

Shipper Total allowance: STA1 = 1,000

Shipper 2

Shipper Daily allowance: SDA2 = 5

Shipper Total allowance: STA2 = 500

Shipper 3

Shipper Daily allowance: SDA3 = 5

Shipper Total allowance: STA3 = 500

Shipper 4

Shipper Daily allowance: SDA4 = 5

Shipper Total allowance: STA4 = 500

By day 60

400 have already been processed for Shipper 1, i.e. **40%** of their total allowance

400 have already been processed for Shipper 2, i.e. **80%** of their total allowance

300 have already been processed for Shipper 3, i.e. 60% of their total allowance

350 have already been processed for Shipper 4, i.e. 70% of their total allowance

On day 61

Shipper 1 submits 15, i.e. **5** over their daily allowance

Shipper 2 submits 10, i.e. **5** over their daily allowance

Shipper 3 submits 5, i.e., their daily allowance

Shipper 4 submits 0, i.e., 5 under their daily allowance

Having processed each Shipper's daily allowance, the un-used processing capacity = 5

Caveat: "subject to 'Constraints point 5' i.e. files will not be partially processed or split and therefore only whole files that would result in aggregate volumes below the Daily system capacity will be processed.

Outcome

All unused capacity will be utilised for Shipper 2 since they have the highest % (80) of their total allowance already processed.