National Fuel Gas Supply Corporation and Empire Pipeline Auto-Renom and MDQ Rank Curtailment Priority.

National Fuel and Empire Pipeline are pleased to announce the implementation of an auto-renom function as well as changes to our curtailment process that will utilize MDQ rank across cycles as a way of maintaining previous cycle priority.

Curtailment Priorities by Cycle

National Fuel and Empire Pipeline’s priorities for intraday cycles are governed by the following language in both company’s tariffs:

“Transporter shall not be required to accept an intraday nomination whose effect would be to reschedule quantities of gas flowing for other Shippers under timely nominations or intraday nominations from an earlier cycle for that day, subject to the following sentence. An intraday nomination for firm service utilizing primary firm capacity submitted during the Evening Nomination Cycle or Intraday 1 Nomination Cycle or Intraday 2 Nomination Cycle will be accepted to the extent that it would not require a rescheduling of quantities of gas flowing for other firm shippers (utilizing primary or secondary firm capacity) under timely nominations or intraday nominations from an earlier cycle for that day. No intraday nomination shall be for a quantity that is less than the quantity of gas that has been scheduled to flow on such day prior to the effective time of such intraday nomination.”

And by the NAESB Standard 1.3.2(v) also included in the tariffs:

“The Intraday 3 Nomination Cycle On the current Gas Day:
• 7:00 p.m. Nominations leave control of the SR;
• 7:15 p.m. Nominations are received by the TSP (including from TTTSPs);
• 7:30 p.m. TSP sends the Quick Response to the SR;
• 9:30 p.m. TSP receives completed confirmations from Confirming Parties;
• 10:00 p.m. TSP provides scheduled quantities to the affected SR and Point Operator.

Scheduled quantities resulting from Intraday 3 Nominations should be effective at 10:00 p.m. on the current Gas Day. Bumping is not allowed during the Intraday 3 Nomination Cycle”
Thus, based on the tariff and NAESB standards above, activities utilizing primary or secondary firm capacity that were scheduled on a previous cycle will have priority over all activities that are nominated in the Evening, ID1, and ID2 cycles.

Primary nominations on Evening, ID1, and ID2 cycles are given priority over previous cycle nominations, excluding primary or secondary firm from a previous cycle as per the tariff.

For the ID3 cycle, all activities that were scheduled on a previous cycle are given priority over ID3 cycle nominations.

Note: Auto-renom does not work within a cycle. National Fuel and Empire make both constraint cuts and confirmation cuts. Confirmation cuts made after a curtailment has been run will not be auto-renom’d up to the constrained volume within the same cycle.

Auto-renom will not be available at the Niagara point (421079) due to the complexities of the confirmation process.

Currently, shippers on National Fuel and Empire are able to utilize the MDQ Rank to assign which activities will be considered system wide overrun on a contract. With this system upgrade shippers must use MDQ Rank to determine which activities will be considered previous cycle for constraint purposes. Leaving the MDQ rank field blank, is equivalent to a MDQ Rank of zero. This activity will be given the highest priority over all cycles.

Every scheduling cycle, the system will review the contract MDTQ and compare it to the activities nominated on that contract. If the sum of the activities is larger than the contract MDTQ, it will assign the activities with the highest numbered MDQ rank as overrun activities.

When evaluating what activities will be cut through constraints and two activities have the same level of service through the constraint (for example if both activities are secondary out of path through the constraint), it will use MDQ rank to determine which activities will be cut. If the MDQ ranks are the same, cuts will be prorated across the activities. Activities with no rank entered will default to zero, thus, the highest priority.

On evening and intraday cycles, the MDQ rank will be used to determine which activities will be given previous cycle designation. It is important for shippers to understand the actual cycle that an activity was nominated is not going to determine if it is considered previous cycle for constraint priority. The activity is strictly going to be allocated based on the MDQ rank and the volume that was scheduled through the constraint on the previous cycle.

For example, a shipper schedules 100 Mdt/day through a constraint on timely cycle with a MDQ rank of 10. On Evening cycle, they place a second nomination on that same contract for 20
Mdt/day through the same constraint and do not include a MDQ rank on the second nomination. The result will be that the activity nominated on Evening cycle will be given prior cycle priority. The nomination that was nominated on the timely cycle will be scheduled 80 Mdt/day of previous cycle priority and 20 Mdt/day of current cycle priority. This allows shippers to transfer the space through the constraint that they had confirmed on the earlier cycle from that activity to a current cycle activity. This removes the need to use the reduction function and redirect activities in order to maintain the previous cycle priority.

**Example**

Let’s use released contract number B12461-408911 to illustrate how a shipper can use the MDQ rank and the auto-renom feature.

This contract has an MDTQ of 20,159 Mdt/day receipt (20,000 Mdt/day delivered) from Roselake to Niagara. For this example the important thing to know about this contract is that it has path rights through the CONCORD SOUTH TO NORTH constraint and does not have Path rights through the LEWIS RUN SOUTH TO NORTH constraint. Let’s also assume for this example that the shipper puts a higher priority on getting gas through the CONCORD SOUTH TO NORTH constraint, but would like to try to also get some gas through the LEWIS RUN SOUTH TO NORTH constraint.
Timely Cycle

We will place three timely cycle nominations on this contract.

The first nomination will be for 15,000 Mdt/day delivered at the primary points that are part of the CONCORD SOUTH TO NORTH constraint. We will give this nomination a MDQ rank of 50. As long as every other nomination has a MDQ rank greater than 50, this activity would not be assigned overrun. We will not use auto-renom on this nomination.

The second nomination will be from Storage to East Eden. This nomination will also be going through the CONCORD SOUTH TO NORTH constraint and would have the priority of secondary in path as long as it stays within the contract MDTQ. For this example, we are going to nominate another 7,000 Mdt/day delivered which means in total the shipper will be over running the contract. The shipper should make sure that they give this nomination a higher number for it’s MDQ rank if they want any possible cut for overrun to be taken on this activity. The shipper gives this nomination a MDQ rank of 60. They also want to auto-renom this activity through the ID3 cycle in an attempt to maximize the storage withdrawal.
The third nomination will be from Lamont to NFG Dist. Mineral Springs. This nomination will be going through the LEWIS RUN SOUTH TO NORTH constraint and would have the priority of secondary out of path as long as it stays within the contract MDTQ. In this case, the shipper is going to nominate an additional 10,000 Mdt/day delivered. They are already over the contract MDTQ. Thus, they are going to give this activity a MDQ rank of 100 to make sure it is the activity that will be classified as overrun. They will also auto-renom this activity through the ID3 cycle.
The following pages are not pages that shippers can see, but for illustrative purposes, they will show how these activities are treated through the internal curtailment cut process. This is what the CONCORD SOUTH TO NORTH constraint will look like:

The system groups activities from the highest priority at the top to the lowest at the bottom. You can see that 15,000 Mdt/day of Primary (activity 490360) is the highest priority, and then 5,000 Mdt/day of the 7,000 Mdt/day that was nominated from storage and is not overrun (activity 490361) is considered secondary in path and is the next highest priority. In this case the remaining 2,000 Mdt/day delivered (2,016 Mdt/day receipt) on activity 490361 is considered overrun and ends up being cut to 927.
Looking at the LEWIS RUN SOUTH TO NORTH constraint:

It shows that all of the volume on activity 490362 is considered overrun. This is a lower priority than the other out of path nomination on this constraint and is subject to curtailment. Resulting with a volume of 5,937 Mdt/day delivered making it through the constraint.
Evening Cycle

Here, the shipper does not place any new nominations on evening cycle, but activities 490361 and 490362 are auto-renom’d. Let’s also assume that the other activity the CONCORD SOUTH TO NORTH constraint on contract B12461-408901, reduces their volume by 300 Mtd/day delivered to 100 Mtd/day delivered, thus making some more space available. The CONCORD SOUTH TO NORTH constraint on evening would then look like this:
The 490361 activity was auto-renom’d to the original 7,000 Mdt/day delivered. The 927 Mdt/day delivered that had scheduled timely is now given a priority of overrun prior cycle. Due to the reduction on the other contract that was going through the constraint, it also allowed 300 Mdt/day delivered to be scheduled as overrun current cycle.

The other out of path shipper through the LEWIS RUN SOUTH TO NORTH constraint using contract B12463-408921 places an evening nomination to increase the total on the contract by 1,000 Mdt/day delivered to 2,000 Mdt/day delivered.

The LEWIS RUN SOUTH TO NORTH constraint on evening would then look like this:

![Image of LEWIS RUN SOUTH TO NORTH constraint on evening]

Admin contracts have been excluded.
Primary and Secondary On-Path quantities will not be cut.

Nominations

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Once again the prior cycle out of path shipper is given priority over the overrun activities. The 5,937 Mtd/day delivered of overrun that had scheduled prior cycle is given a higher priority than the secondary out of path scheduled on the current cycle. All of the remaining overrun ends up getting cut.

ID1 Cycle

The shipper we have been discussing with contract B12461-408911 becomes aware of some supplies available from Leidy and they want to use that to reduce their storage withdrawal. In order to do this and hold the previous period priority through the constraint, the shipper no longer needs to do a redirect. Instead, the shipper can simply place a nomination that has a lower numbered MDQ rank than the activity that already had the prior period designation. In this case, we will use a MDQ rank of 55 which is lower than the 60 for the storage withdrawal. See the nomination below.
The effect of this nomination will not only shift more of the overrun designation to the storage activity, it will also shift more of the previous cycle priority from the storage withdrawal to this activity. The final constraint priority for ID1 through the CONCORD SOUTH TO NORTH constraint will look like this:

Activity 490379, the new nomination at Leidy is being given prior cycle priority because of the MDQ rank of 55. A portion of activity 490361 is being considered current cycle because all of the prior cycle priority has be allocated to the new activity.
The primary shipper using contract B12463-408931 increases their nomination by 500 Mdt/day delivered for ID1. The result on the LEWIS RUN SOUTH TO NORTH constraint is below:

As the tariff dictates the current cycle primary nomination has a higher priority than the previous cycle overrun activities, but not the previous cycle primary and secondary activities. This has caused 500 Mdt/day delivered of the overrun that had been scheduled on the previous cycle to be cut.
ID2 Cycle

This shuffling of the prior cycle priority can be updated on each cycle. Note: Any gas that has already flowed (EPSQ) cannot be shifted. For ID1, we change the MDQ rank of the primary Roselake to Niagara nom (activity 490360) to 65. (This may not be something a shipper would do, but is used here for illustrative purposes.)
The nominations that are on the primary path on activity 490360 have now been shifted to overrun, while the secondary in path nominations are no longer overrun. The danger here is that another primary nomination on this cycle from a different shipper would have a higher priority than these activities, even though 490360 was originally a primary nomination scheduled on timely cycle. For this reason, shippers must be very aware of the MDQ rank priority they are giving ID cycle nominations to make sure they don’t accidentally bump what they think is scheduled gas into a position where it can be cut.
No changes were made that affect the LEWIS RUN SOUTH TO NORTH constraint, but we will include it here as a reference.

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Admin contracts have been excluded. Primary and Secondary On-Path quantities will not be cut.

**Nominations**

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ID3 Cycle

The NAESB “No Bumping” rule takes effect. The shipper using primary capacity on contract B12463-408931 tries to nominate their full contract MTDQ of 2,000 Mdt/day delivered in ID3. This is what the LEWIS RUN SOUTH TO NORTH constraint will look like on ID3:

While the nomination on B12463-408931 is primary, on ID3 it is a lower priority than the prior cycle overrun because the NAESB No Bumping rule takes effect.
This nomination also illustrates how contract MDTQ is effected in curtailments for intraday nominations. B12463-408931 nominated their contract MDTQ of 2,000, but they ended up with a curtailment priority equal to overrun for part of the nomination due to the Elapsed Prorated Scheduled Quantity (EPSQ).

Nominations are placed on a daily Mdt basis in the nomination system, but for curtailment purposes they are considered as having 1/24\textsuperscript{th} of the MDQ per hour through a constraint on each cycle. You then add up all of the hours to get the daily amount that would be considered the effective MDQ for the curtailment.

The curtailment system shown in these examples works off of receipt volumes so we are going to use receipt volumes in these calculations to tie to the screen shot above.

Recall that on contract B12463-408931:

- 1,008 Mdt/Day receipt was nominated on timely cycle.
- 1,512 Mdt/Day receipt was nominated on ID1 cycle.
- 2,016 Mdt/Day receipt was nominated on ID3 cycle.

First, let’s calculate the amount of gas that had flowed (the EPSQ) at the start of ID1:

This contract flowed 1,008 Mdt from timely through ID1 or 5 hr X 1,008 Mdt/24 hr = 210 Mdt.

Next, let’s calculate how much gas flowed between the start of the ID1 cycle and the start of the ID3 cycle:

On ID1 the new daily target was 1,512 Mdt/day but we had already flowed 210 Mdt, so for the rest of the day you would need to flow 1,512 Mdt – 210 Mdt = 1,310 Mdt to reach your daily target. There are 19 hours from the start of ID1 until the end of the gas day, so the hourly rate starting at ID1 would be 1,310 Mdt/19 hr = 69 Mdt/hr. For the 8 hours between ID1 and ID3 we would flow 8 hr X 69 Mdt/hr = 552 Mdt.

Therefore, the EPSQ at the start of ID3 is = 210 Mdt + 552 Mdt = 758 Mdt

Next, let’s calculate the maximum amount of gas that can flow primary for the rest of the gas day:

The contract MDQ is 2,016 Mdt/day or 84 Mdt/hr.

Since we are placing this nomination on ID3 there are 11 hours left in the day (11 hr X 84 Mdt/hr = 924 Mdt). This means this contract can flow a total of 924 Mdt primary for the rest of the day.

Next, let’s calculate the adjusted MDTQ for the contract:

If we add that to the EPSQ to the maximum amount of gas that can flow primary for the rest of the gas day that would be the new total for Mdt/day you can flow for the day as primary through the constraint. 758 + 924 Mdt = 1,682 Mdt/day is the total that can be nominated on ID3 as primary through the constraint.
Next, let’s apply this to the ID3 constraint in the example:

Of the 1,682 Mdt/day we already had prior period priority for 1,512 Mdt. So we would get 1,682 Mdt - 1,512 Mdt = 170 Mdt of primary current cycle. The remaining 2,016 Mdt – 1,682 Mdt = 334 Mdt would be considered overrun current cycle.

Note: For billing purposes overrun is only calculated on a daily basis, so even though this nomination was treated as overrun for the constraint on ID3, it would not be billed as overrun.

**In Summary**

- Primary nominations on Evening, ID1 and ID2 cycles are given priority over previous cycle nominations (excluding primary or secondary firm from a previous cycle) as per the tariff.

- Currently, Shippers can utilize MDQ rank to assign which activities represent priorities (secondary firm, secondary, interruptible/overrun) on a contract for curtailment purposes.
  - The highest numbered MDQ rank would be assigned as the lowest priority.

- With this system upgrade, the MDQ rank will be used to identify activities that will be considered previous cycle noms for curtailment purposes.

- During the curtailment and confirmation processes for Evening and Intraday cycles, the MDQ rank will be used to determine which activities will be given previous cycle designation.
  - This allows Shippers to transfer the space through a constraint that has been confirmed on an earlier cycle from that activity to a current cycle activity.
  - This removes the need to reduce or redirect activities in order to retain the previous cycle priority.

- Shippers should be aware of the MDQ rank priority they assign to Intraday cycle noms to make sure they don’t inadvertently bump scheduled gas (from a previous cycle) into a position where it can be curtailed in the current cycle.

- Leaving the MDQ rank field blank is equivalent to a MDQ rank of zero.
  - The MDQ rank of zero is the highest priority.

- An auto-renom drop down will appear on your nomination screen to allow you to choose what nom cycle you wish to Auto-renom thru.
  - Auto-renom does not work within a cycle.