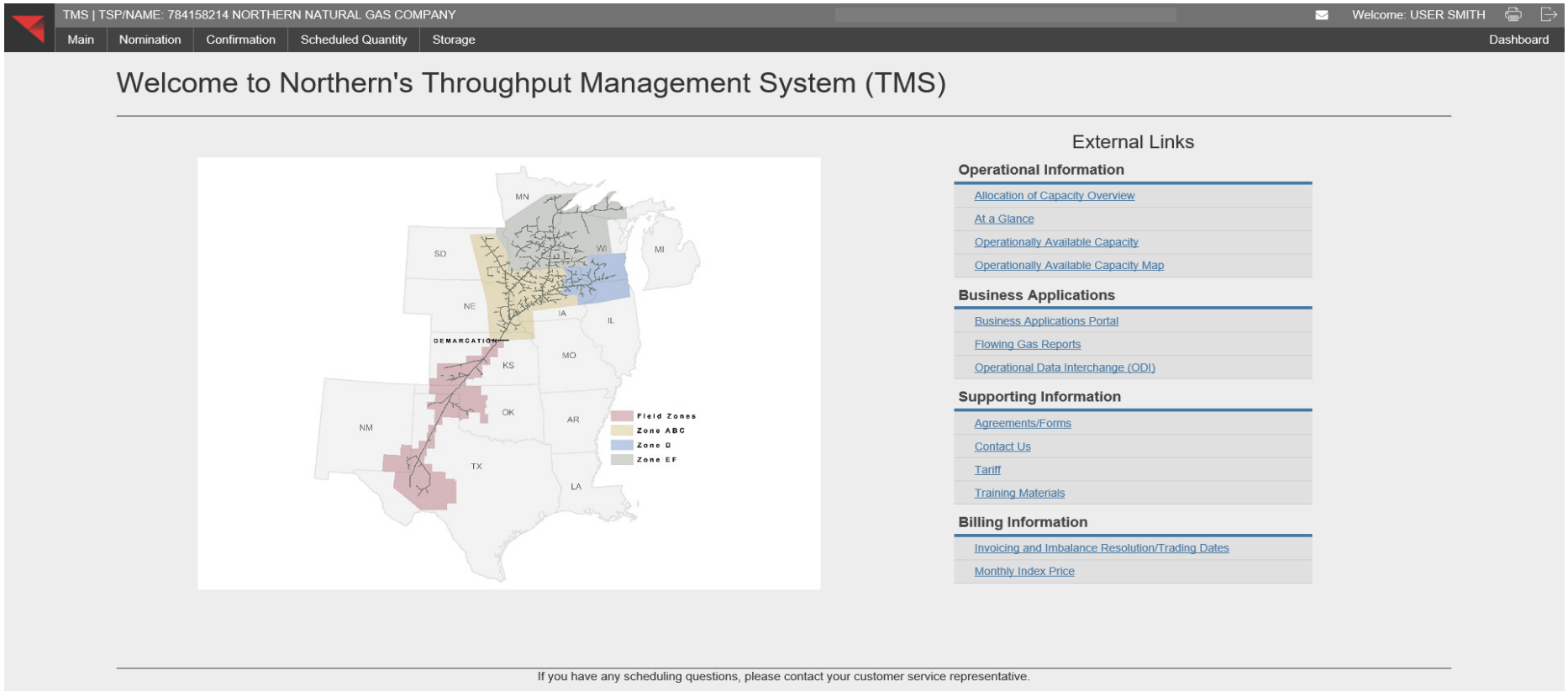
Throughput Management System (TMS)

User Training

April 17, 2020

Overview

- Northern has updated its Throughput Management System (TMS) from a Smalltalk to a Java (web-based) application.
- TMS is the main application customers use to nominate, confirm and scheduled quantities on Northern's pipeline.
- Basic functionality and makeup is similar to the previous version in order to remain consistent when conducting business on Northern; however, new features and enhancements have been included.



Overview
(continued)

New features:

- Predictive Select functionality is offered for location, service requester/operator and contract fields. The previous five selected values will automatically be displayed.
- Redesigned grouping, sorting and column filtering feature
- Redesigned nomination copy feature with the ability to copy all nominations or select specific nominations
- Newly added or edited nomination will appear in **blue** text, then change to **black** when submitted
- New function for **Nomination Reconciliation** that provides the user the ability to access **Nomination Maintenance** to add, change or delete a nomination
- New hyperlink feature within **Cycle Process Status** screen to allow the user to quickly view the allocation notice(s) for the selected Gas Day/Cycle
- Ability to select **All (view only)** to view all the nominations at once when the user enters an aggregated pooling contract

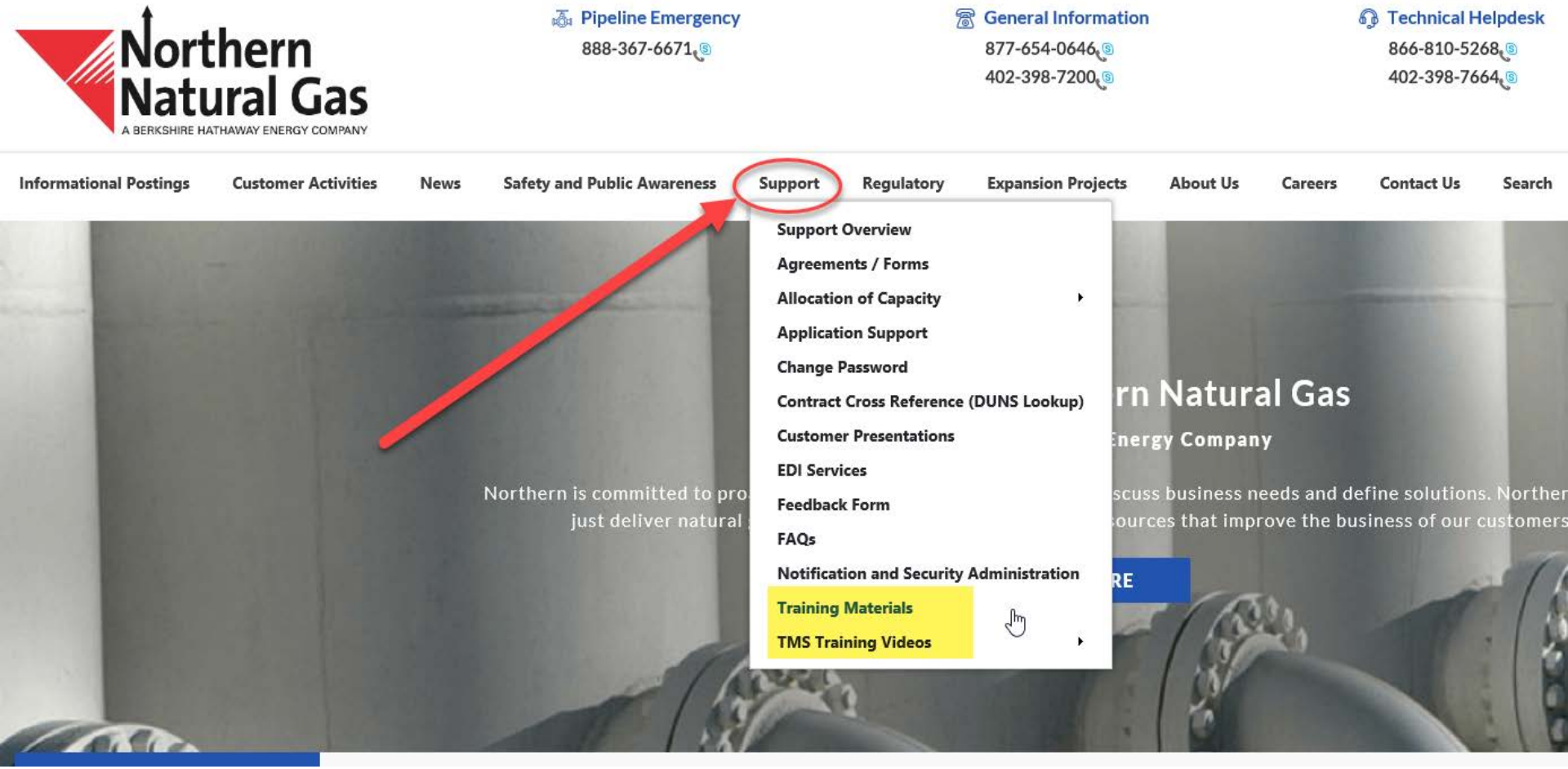
Overview
(continued)

Enhancements:

- User has the ability to view preliminary scheduled quantities during each cycle process: balancing, allocations and confirmations
- Enhanced Reduction Reason Detail screen that will allow a user to view reductions on its contracts after each process: balancing, allocations and confirmations
- Two storage netting screens: one to setup storage netting and one to view storage netting activity
- Redesigned view for EDI processing
- Single screen to view storage contract balances
- New inbox feature to view current TMS notification(s)
- New Dashboard screen that includes several helpful hyperlinks to external webpages
- Eighteen months of history will be viewable (previously twelve months)

Training Materials

- Training materials available on Northern Natural Gas Website: www.northernnaturalgas.com
- Support Tab – Training Materials and TMS Training Videos



Training Materials
(continued)

- **Training Materials**
  - Throughput Management System (TMS) User Manual
  - TMS Quick Tips
  - Model Office Testing Environment (Login/Password same as production)
    - https://testing-comapps.northernnaturalgas.com/businessapps/welcome.html

- **TMS Training Videos**
  - Dashboard, Inbox and Navigation
  - EDI Processing
  - Filtering, Grouping and Sorting Data
  - Nomination Copy
  - Nomination Quantities by Cycle
  - Nomination Reconciliation
  - Preliminary Scheduled Quantities and Reduction Reason Detail
  - Search and Advanced Search
  - Storage Contract Balance
  - Storage Netting

Quick Tips

- To open more than one session of TMS:
  - Click on the **Menu** item
  - Right click on the desired destination
  - Click "**Open in New Tab**"
- TMS will automatically logout inactive user after two hours; to prevent this, a user can open a tab for **Cycle Process Status,** which automatically refreshes every 30 seconds resulting in your session remaining active
- All fields with a **red** asterisk "*****" are required fields
- New nomination paths are **blue** in color; paths will change to **black** once submitted
- When entering a Svc Req K, TMS holds the previous five contracts that have been used
- If a user wants to have two different contracts open at the same time
  - Select Nominations, Nomination Maintenance, right click and select **Open in New Tab**
- In the **Cycle Process Status** screen, a **blue** hyperlink indicates either Throughput or Storage service was allocated. Select the hyperlink to access the non-critical notice for the selected cycle allocation.
- **Envelope** button in the upper right portion of each screen displays the number of active messages (e.g. timeline extension) that Northern has distributed. The number in red reflects the number of unread messages.

Quick Tips
(continued)

- **Reset** button, which appears on each screen, allows a user to revert visual changes made to the screen (e.g., grouping, sorting, width of a column) back to the original state.
- **Export** button, which appears on each screen, allows a user to export the data on the screen as a CSV or Excel file.
- **Ellipsis option**, located to the right of the **Retrieve** button, allows a user to open related screens associated to the underlying screen.
- Using on the Nomination Maintenance screen, allows a user to select:
  - **Open New** to open nomination maintenance
  - **Open NomQ** to open nominated quantities by cycle screen
  - **Open SchQ** to open scheduled quantities screen
  - **Open NomR** to open the nomination reconciliation screen.
- **Collapse** button collapse a portion of the screen
- **Expand** button expands the previously collapsed portion of a screen
- **Information** button: select to open the location detail information
- Select to open the corresponding upstream or downstream contract
- Hover over any column heading to display the **Column Header Menu**. This provides
- the user with several options:
  - Select to pin (move) or autosize a column(s)
  - Select to choose filtering options
  - Select to choose what column(s) appear. To filter out unwanted columns, check the box.

Quick Tips
(continued)

- To group data within a grid, user can simply grab and drag a column header to the row above the header where **[Drag here to set row groups]** is displayed.

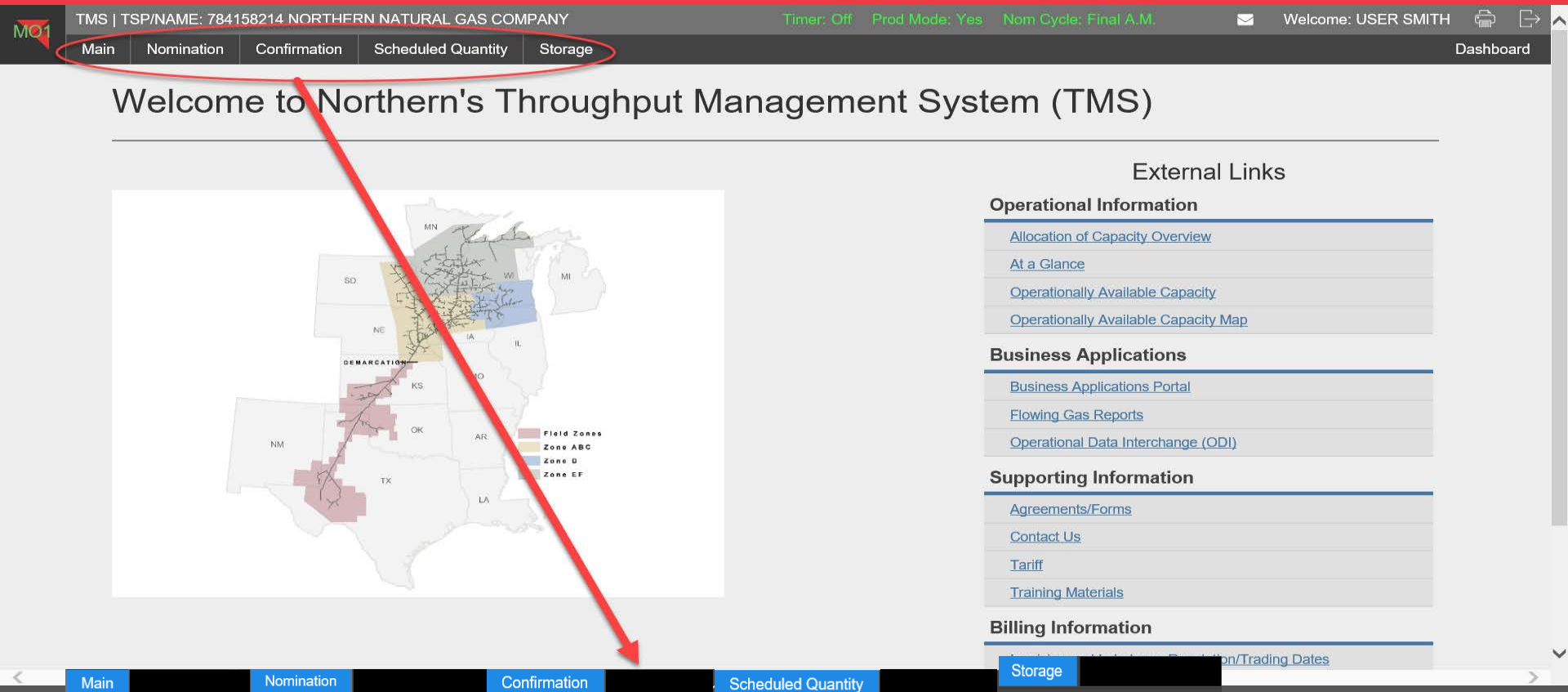
- When grouping:
  - Select ⊞ to the left of a group to see records for just that group
  - Hover over the column heading, select ☰ and select **Expand All** to see all records

- Upon selecting a grid row for a contract there are additional buttons within the grid entry(PRIMARY REC LOCS, PRIMARY DEL LOCS, EPSQ, RATES, R/D TOTALS and MDQ USAGE). Once selected a new screen will launch with additional information.

- **Grid Entry Form** button: Users may choose information to be displayed in the grid entry form by selecting this button. Click on the button to disable the grid entry form. Click again and the form will open.
  - Use the “Tab” key to navigate through the value fields within the grid entry form.

- SBS **SBS** button: select to see the storage balancing contract and the associated transportation contract. If a user does not have SBS, this button will not appear.

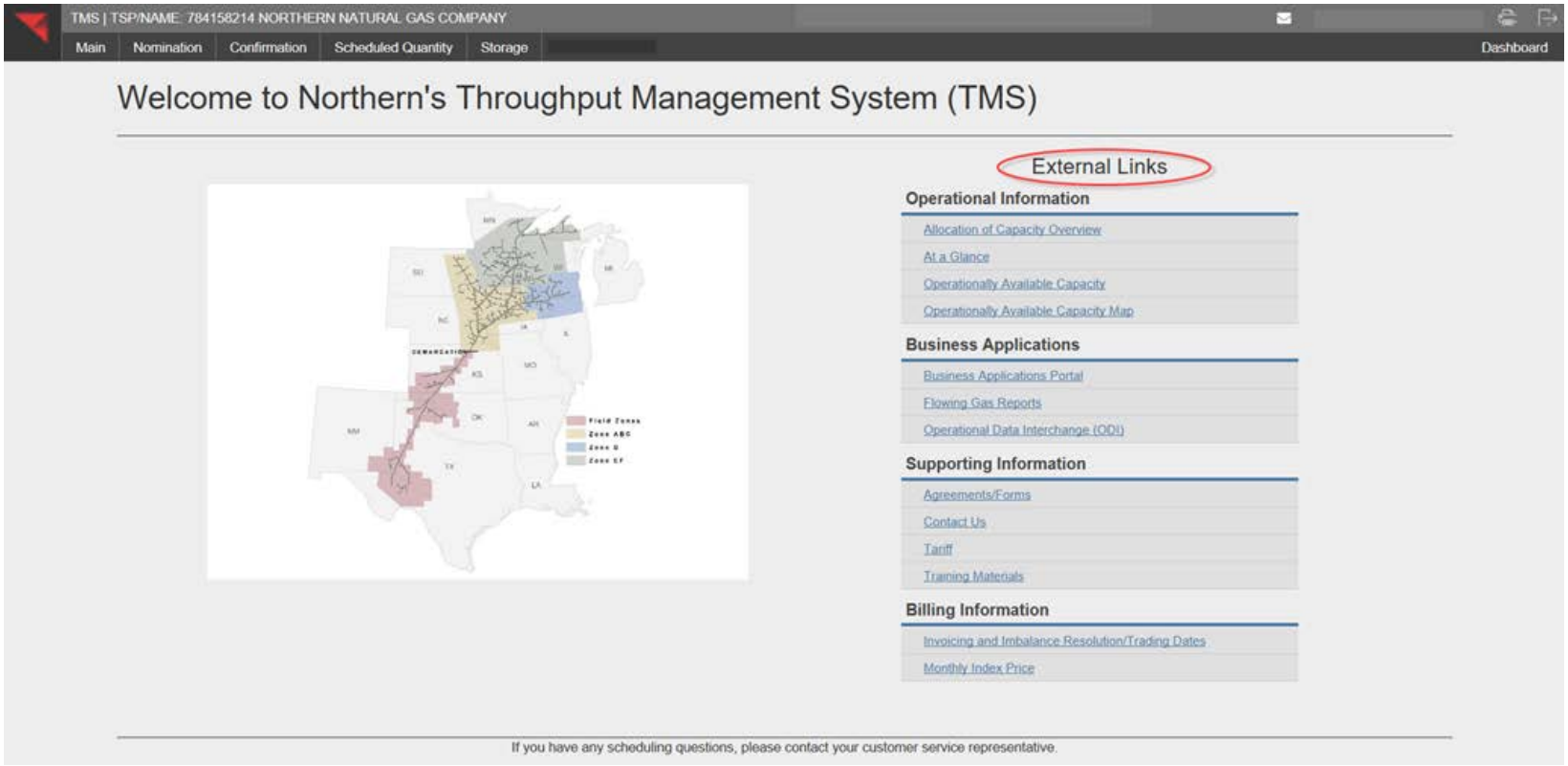
TMS Navigation Tabs



Main – TMS Dashboard

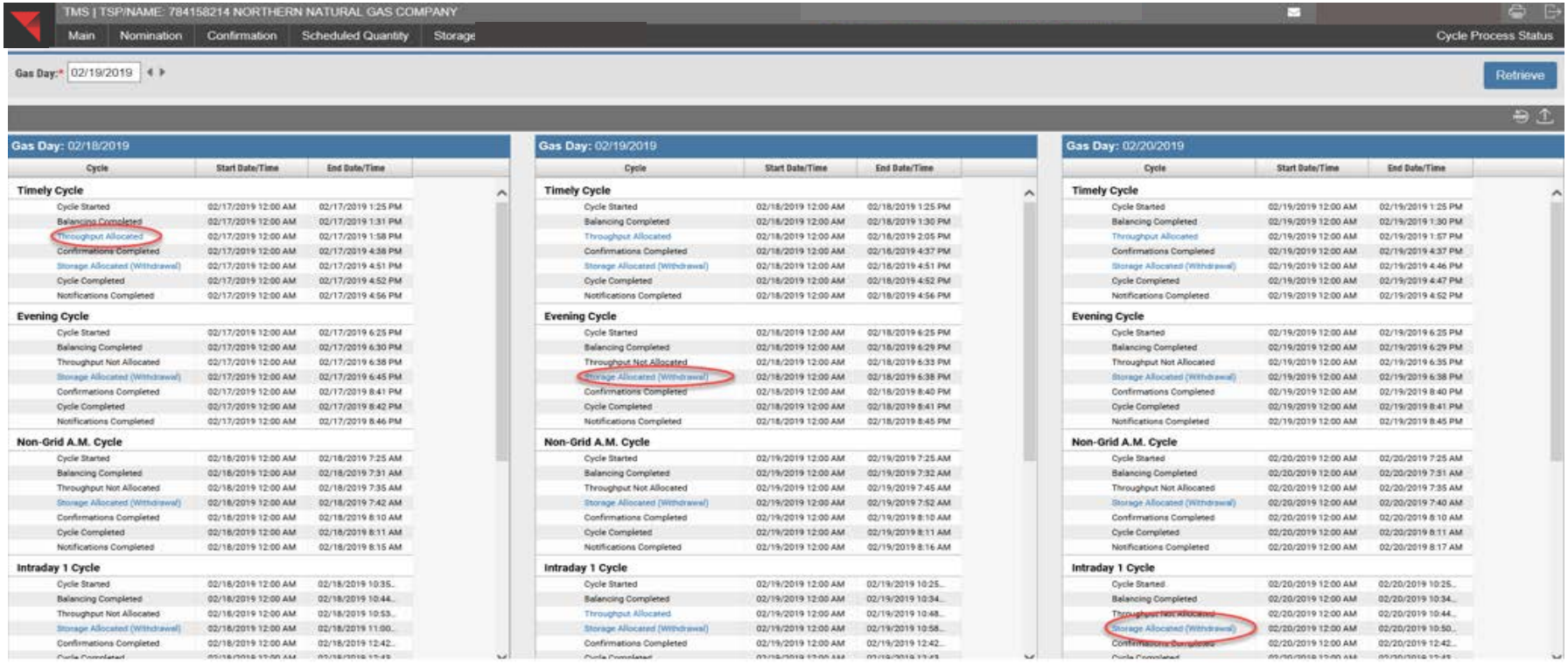
Dashboard

- This is the Throughput Management System (TMS) home page.
- **External Links** located on the **Dashboard** provide a central location to access **Operational**, **Information, Business Applications, Supporting Information** and **Billing Information**. Each external link will open a new browser window for the selected application.



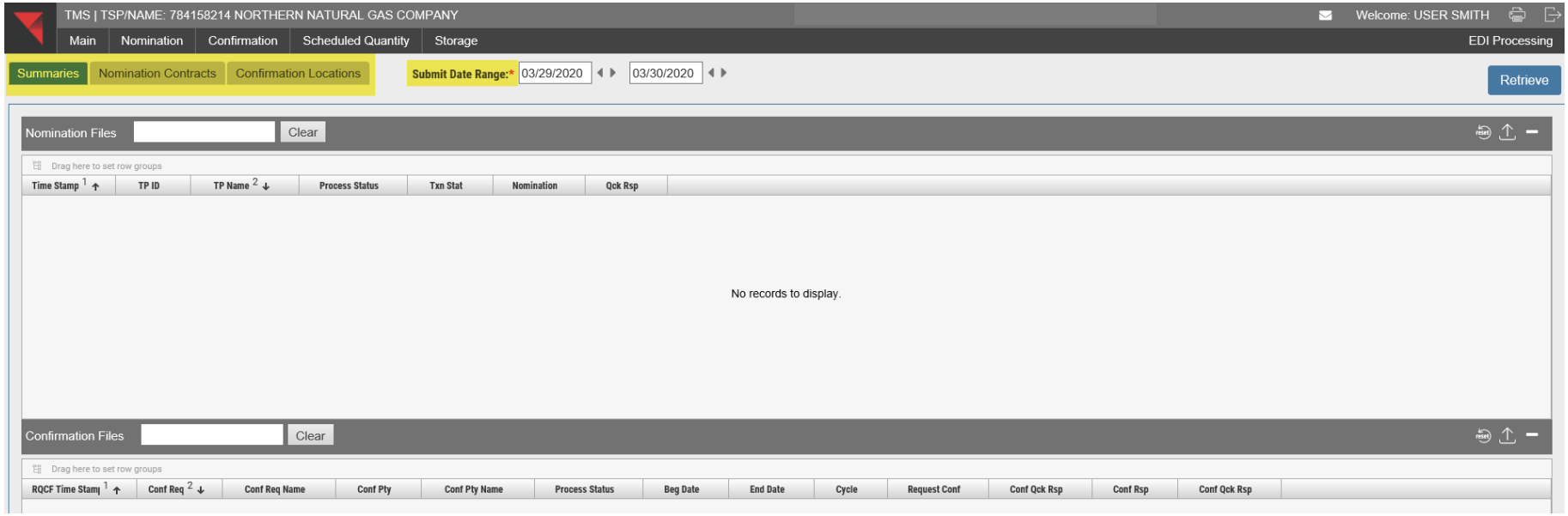
Main – Cycle Process Status

- This screen provides the user a view of the processed cycles for a given gas day and replaces the Batch Schedule Status screen. Three successive gas days (prior, current and next day) will be displayed. The cycles identify which process has completed or is currently processing.
- To view this screen, select **Main** and then **Cycle Process Status**.
- When Throughput or Storage service is allocated, the user can select the hyperlink in **blue** located within each cycle which will take you to the non-critical notice for that cycle to see the point(s) or group(s) that were allocated. Screen refreshes automatically every 30 seconds.



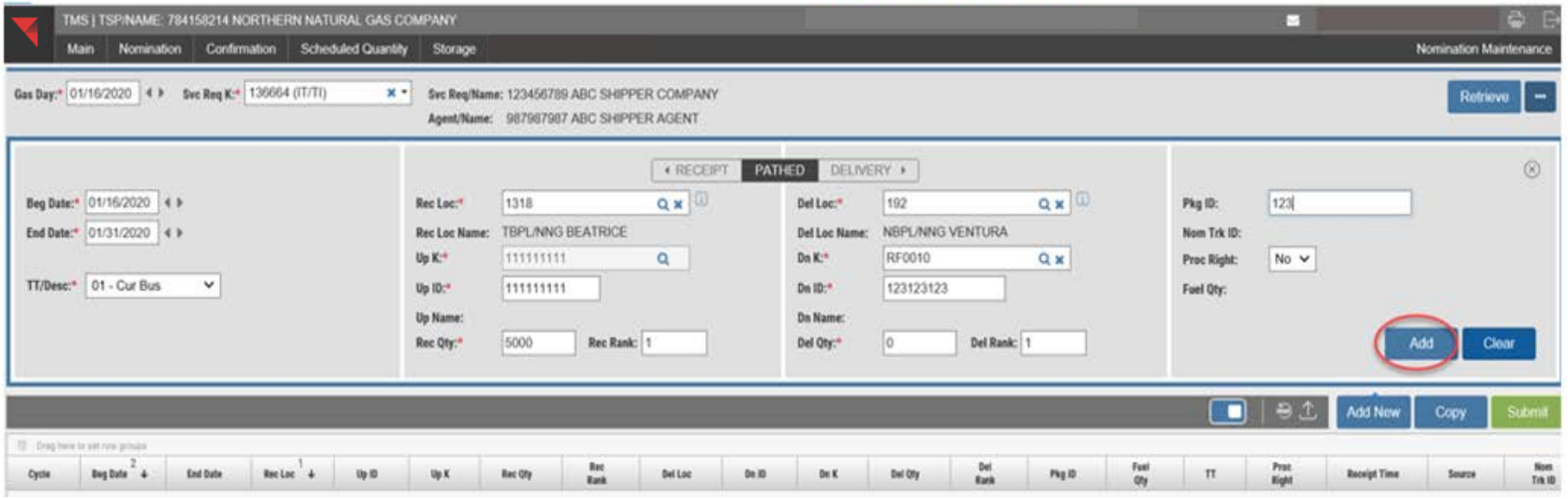
Main – EDI Processing

- This screen allows the user to view summary and detail information for EDI files within a date range.
- To view this screen, select **Main** and then **EDI Processing**.
- There are three sections to view: **Summaries, Nomination Contracts and Confirmation Locations**.
- Files with time stamp falls within the **Submit Date Range** will be displayed in the results, irrespective of the gas day; up to one month of data can be viewed at a time.
- Retrieve **Retrieve** button updates all three sections.



Nomination – Nomination Maintenance

- This screen allows a user to add or edit its nominations for the current or future gas days, as well as view nominations from past days.
- To enter a nomination, select **Nominations** from the **Main** menu or **Dashboard** and then **Nomination Maintenance**.



Nomination – Nomination Maintenance
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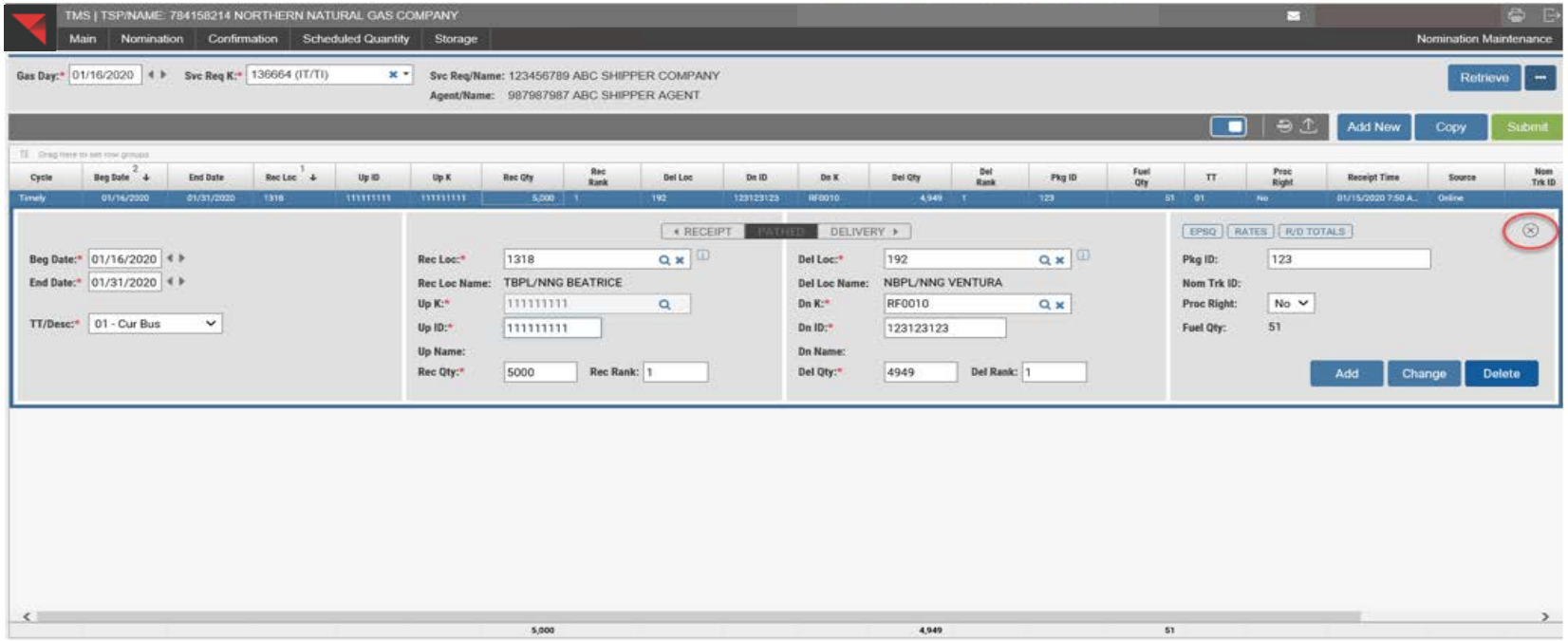
- To add or change a record, highlight the record. The grid entry form opens so the user can make changes and select **Add** or **Change**.
- If **Add** is selected and then user decides not to add the record, the user may select the circled **X** on the right hand side to close the grid entry form and return to the nomination.
- To delete a record, highlight the record. When the grid entry form opens, select **Delete**.



Nomination – Nomination Maintenance
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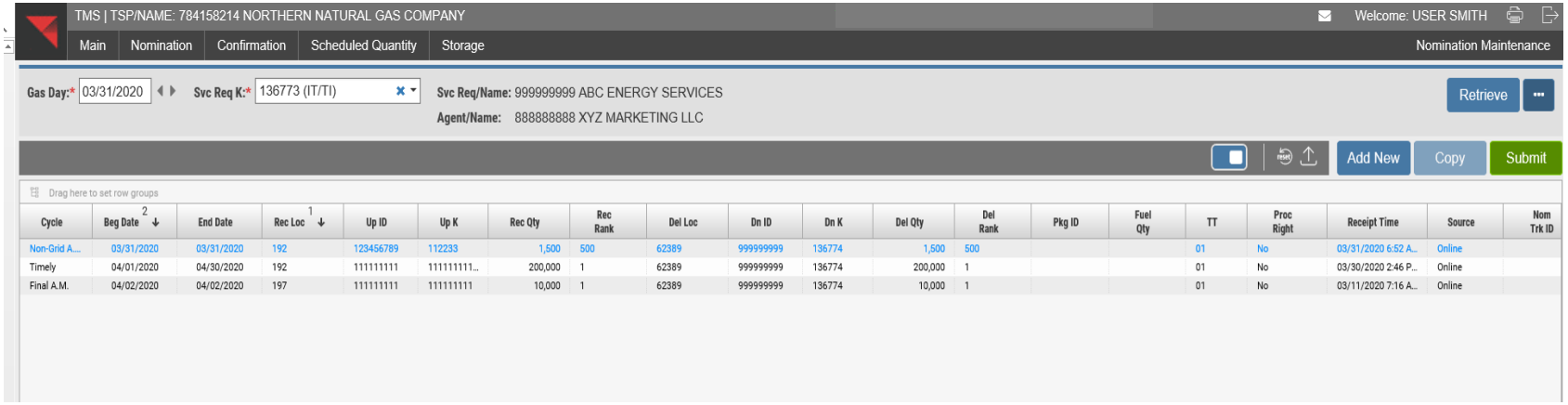
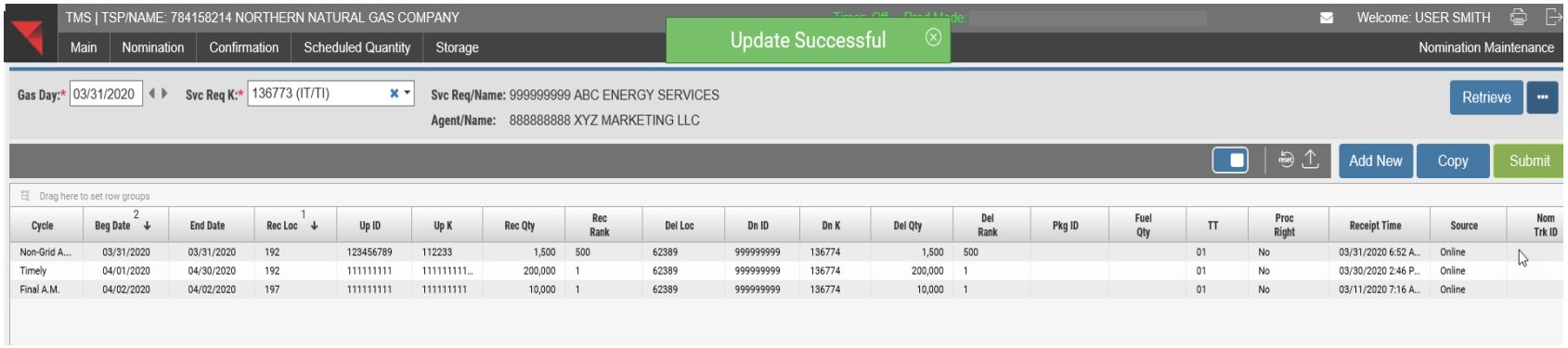
- The new record will be **blue** in color.

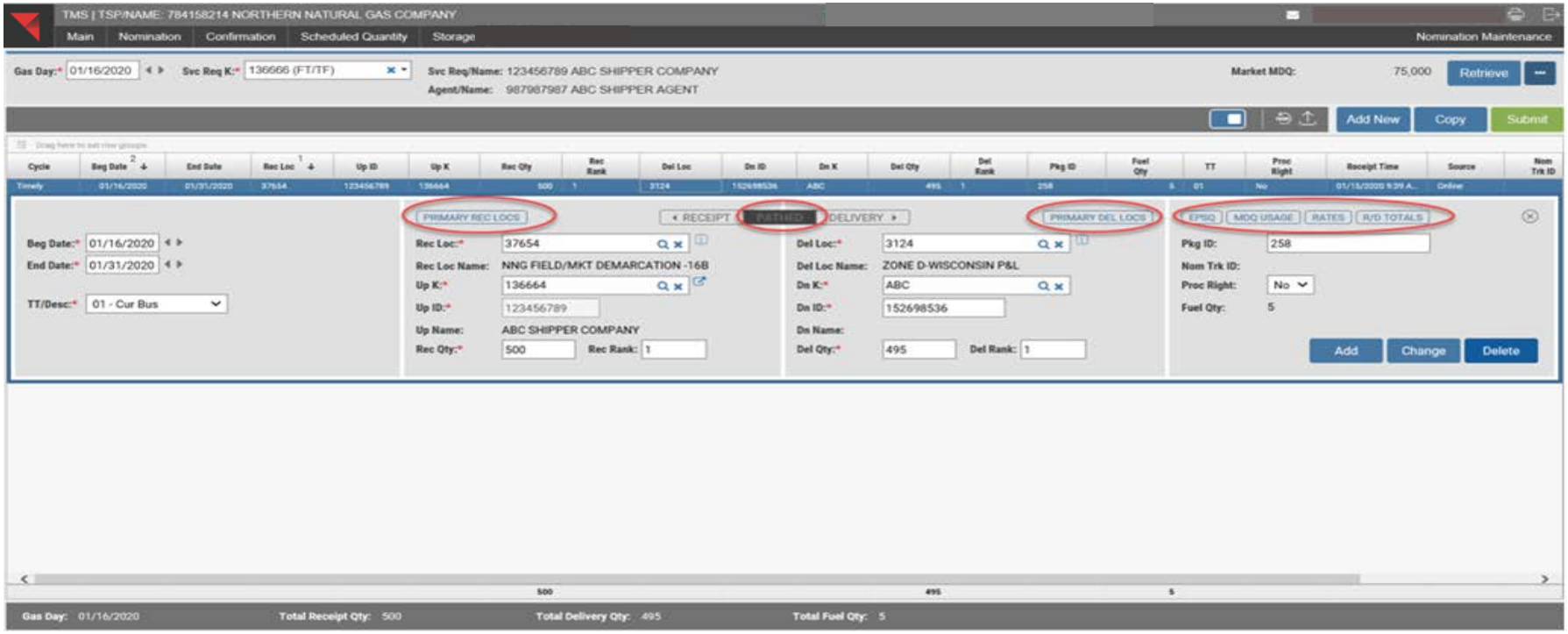


- When you select **Submit** the new record in **blue** changes to **black**. The path has now been saved.



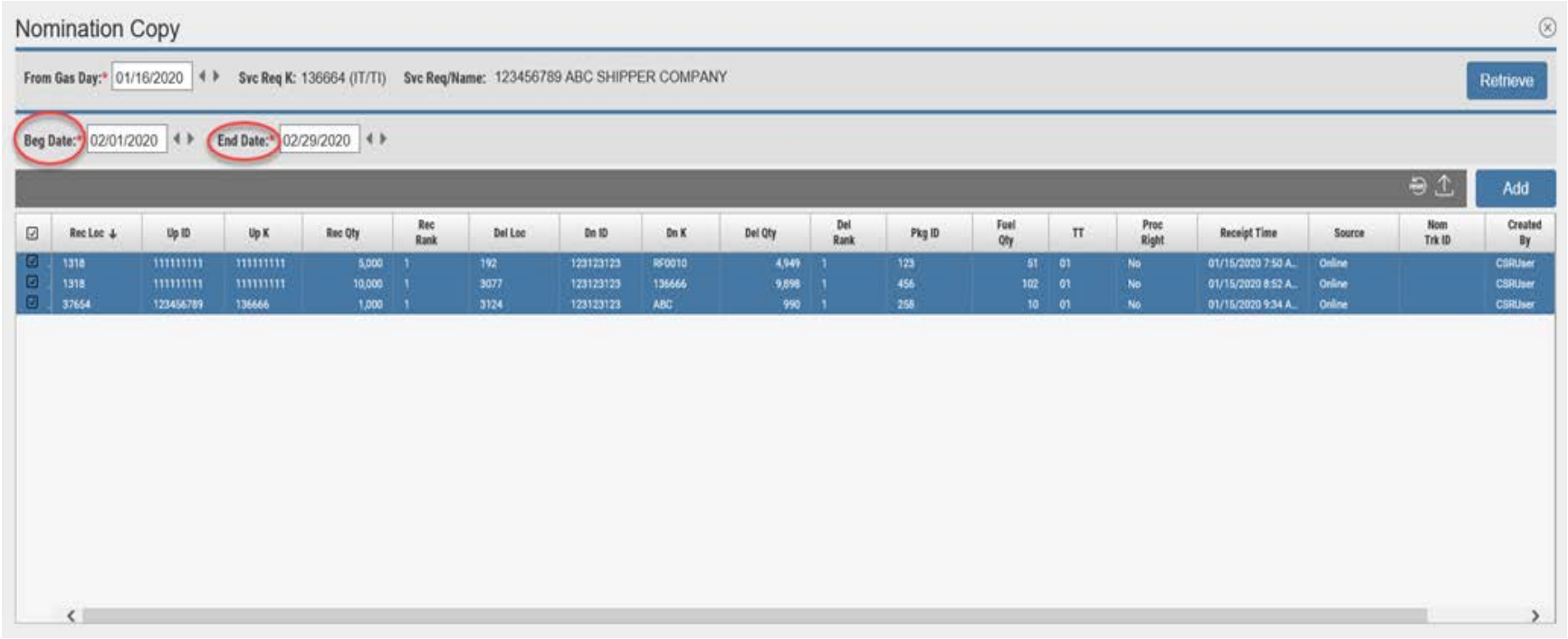
Nomination – Nomination Maintenance
(continued)

- If a transportation contract is entered and a record highlighted, the grid entry form opens and the **PATHED** field is highlighted.
- When the **PRIMARY REC LOCS, PRIMARY DEL LOCS, EPSQ, RATES, R/D TOTALS** and **MDQ USAGES** buttons are selected, a modal window will be launched and additional information displayed.
- **MDQ USAGES** will only appear on firm transportation contracts.



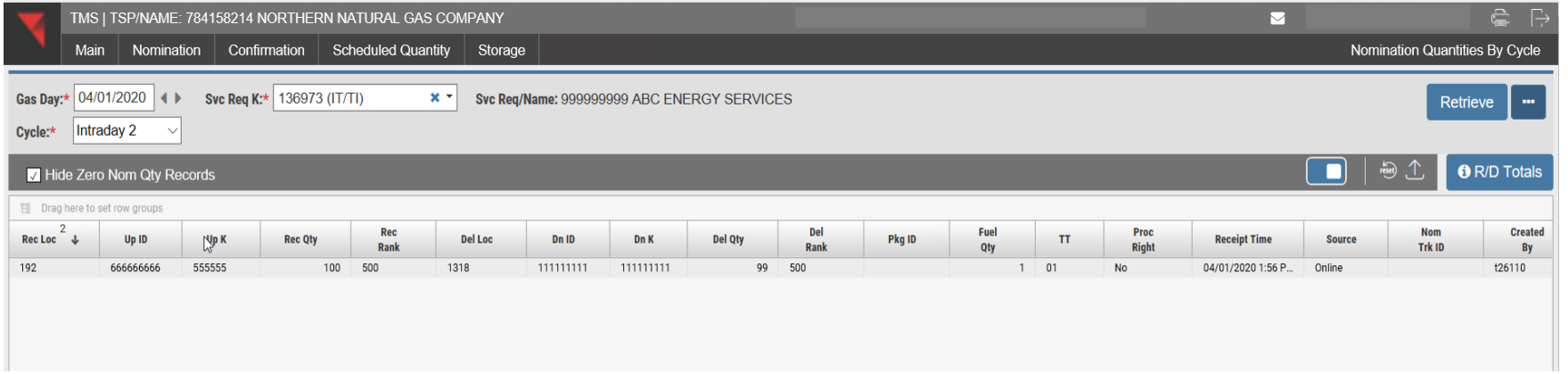
Nomination – Nomination Copy

- To copy a nomination, there are two options. The first option is within **Nomination Maintenance** by selecting **Copy**.
- The second option is **Nomination Copy,** a new standalone screen that allows users to copy nominations from previous gas days.
- User will have the option to select one individual record or multiple records to copy.



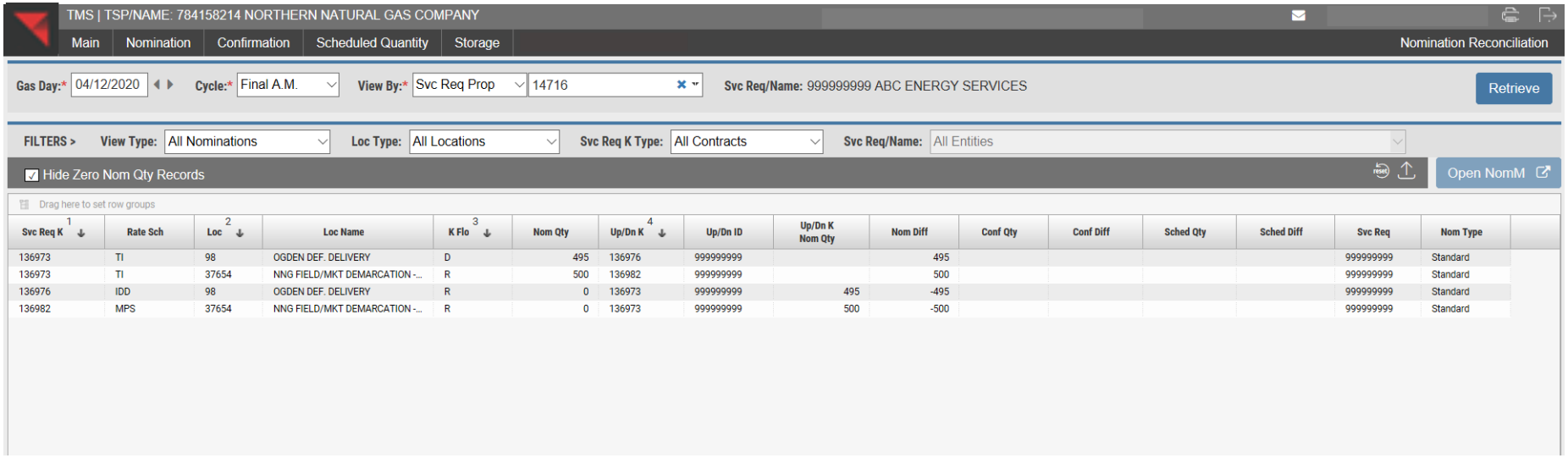
Nomination – Nomination Quantities by Cycle

- This report provides nomination data for one or more contracts by gas day and cycle with the ability to export as a PDF file.
- A user can access the **Nomination Maintenance** screen in order to add, change or delete a nomination.



Nomination – Nomination Reconciliation

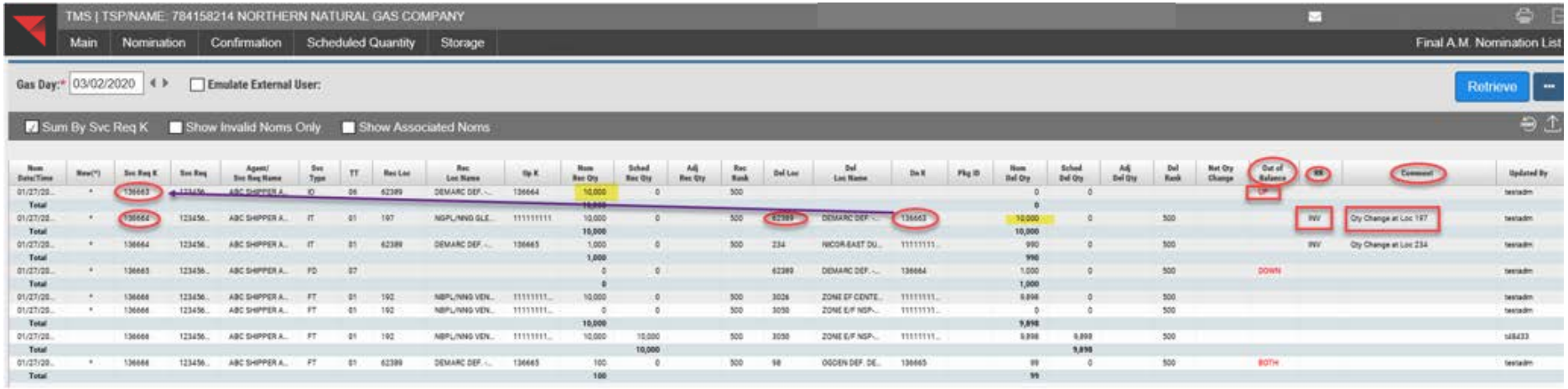
- Displays nomination, confirmation and scheduling mismatches
- Filter by **View Type**, **Loc Type** and **Svc Req K Type**
- The example below displays a nomination on TI contract 136973, with a receipt from Demarc and delivery to Ogden Deferred Delivery
- IDD contract 136976 does not have a nomination.
- MPS contract 136982 does not have a nomination.
- Select Open **NomM** to view nomination maintenance screen for the selected contract.



Svc Req K	Rate Sch	Loc	Loc Name	K Flo	Nom Qty	Up/Dn K	Up/Dn ID	Up/Dn K Nom Qty	Nom Diff	Conf Qty	Conf Diff	Sched Qty	Sched Diff	Svc Req	Nom Type
136973	TI	98	OGDEN DEF. DELIVERY	D	495	136976	999999999		495					999999999	Standard
136973	TI	37654	NNG FIELD/MKT DEMARCATION -...	R	500	136982	999999999		500					999999999	Standard
136976	IDD	98	OGDEN DEF. DELIVERY	R	0	136973	999999999	495	-495					999999999	Standard
136982	MPS	37654	NNG FIELD/MKT DEMARCATION -...	R	0	136973	999999999	500	-500					999999999	Standard

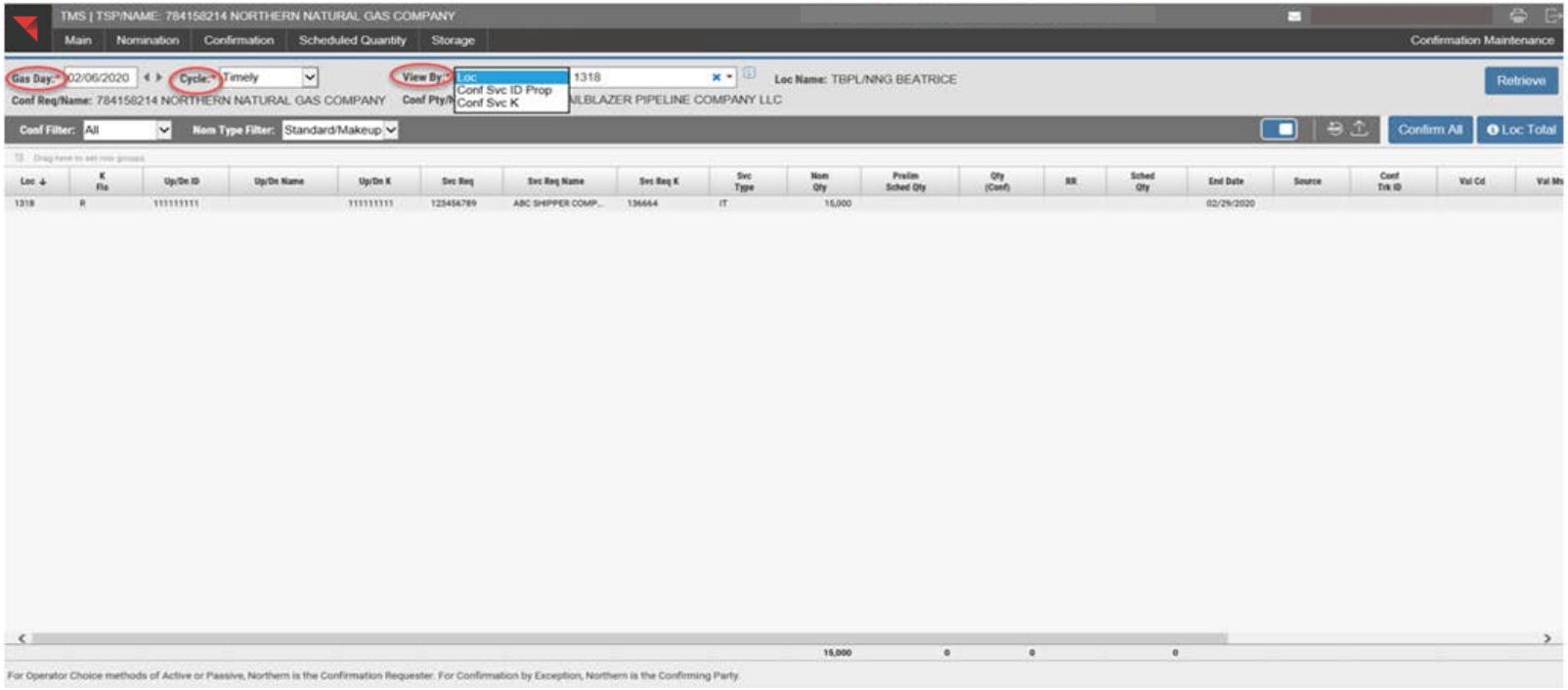
Nomination – Final A.M. Nomination List

- The Final 8:00 A.M process is designed for users to true up actual usage using storage service or to redirect quantities from one delivery location to another.
- Displays INV(invalid) Reason, Up, Down and Both Codes as an explanation regarding the nomination
- **INV** – a nomination that is not valid; a comment will reference the reason
- **UP** – references the Up K of the invalid nomination
- **DOWN** – references the Down K of the invalid nomination
- **BOTH** – references the Up K and Down K that should have a corresponding nomination



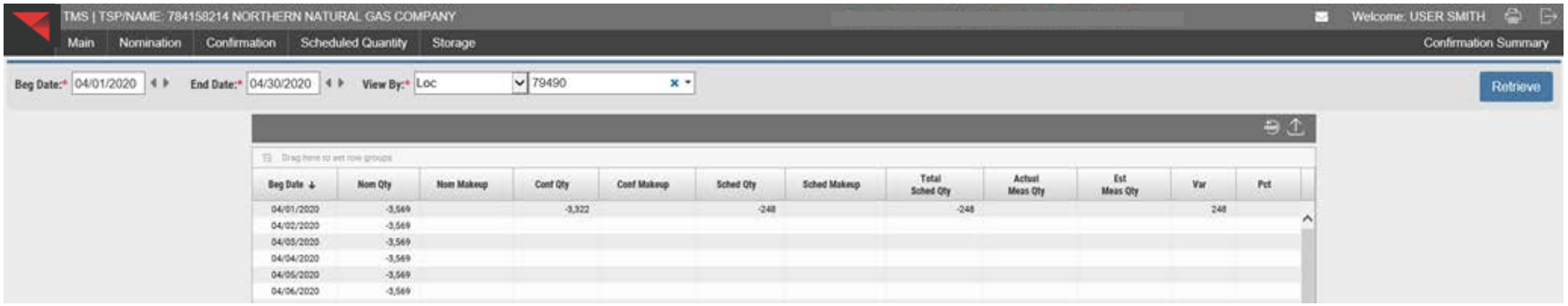
Confirmation – Confirmation Maintenance

- Allows operator to view, edit, add and delete confirmations
- Select gas day and cycle
- View by:
  - **Loc**
  - **Conf Svc ID Prop**
  - **Conf Svc K**



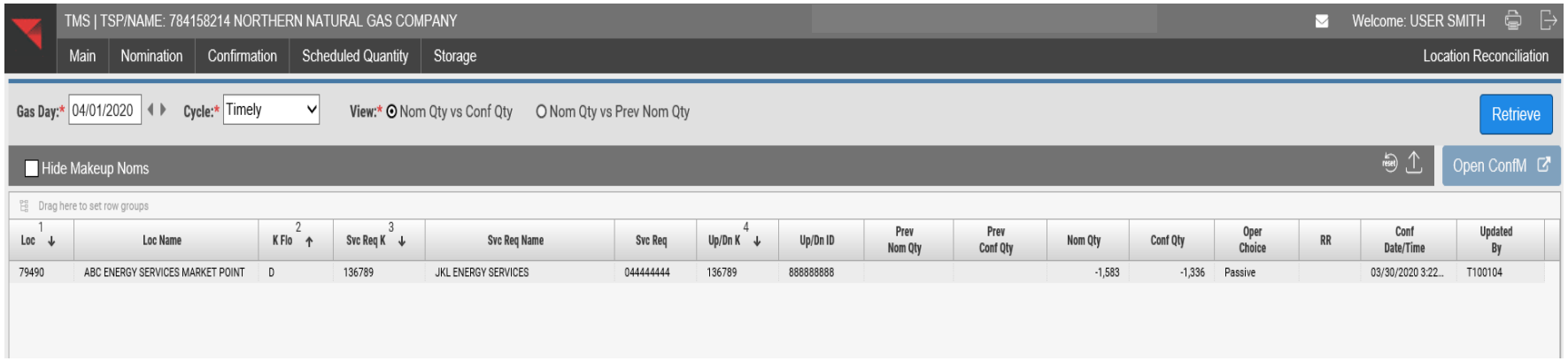
Confirmation – Confirmation Summary

- Provides user a view of its daily and monthly scheduled quantities, nominations, confirmations and actual measured quantities at its locations for a specified date range
- View by **Loc**, **Conf Svc ID Prop** or **Conf Svc K**



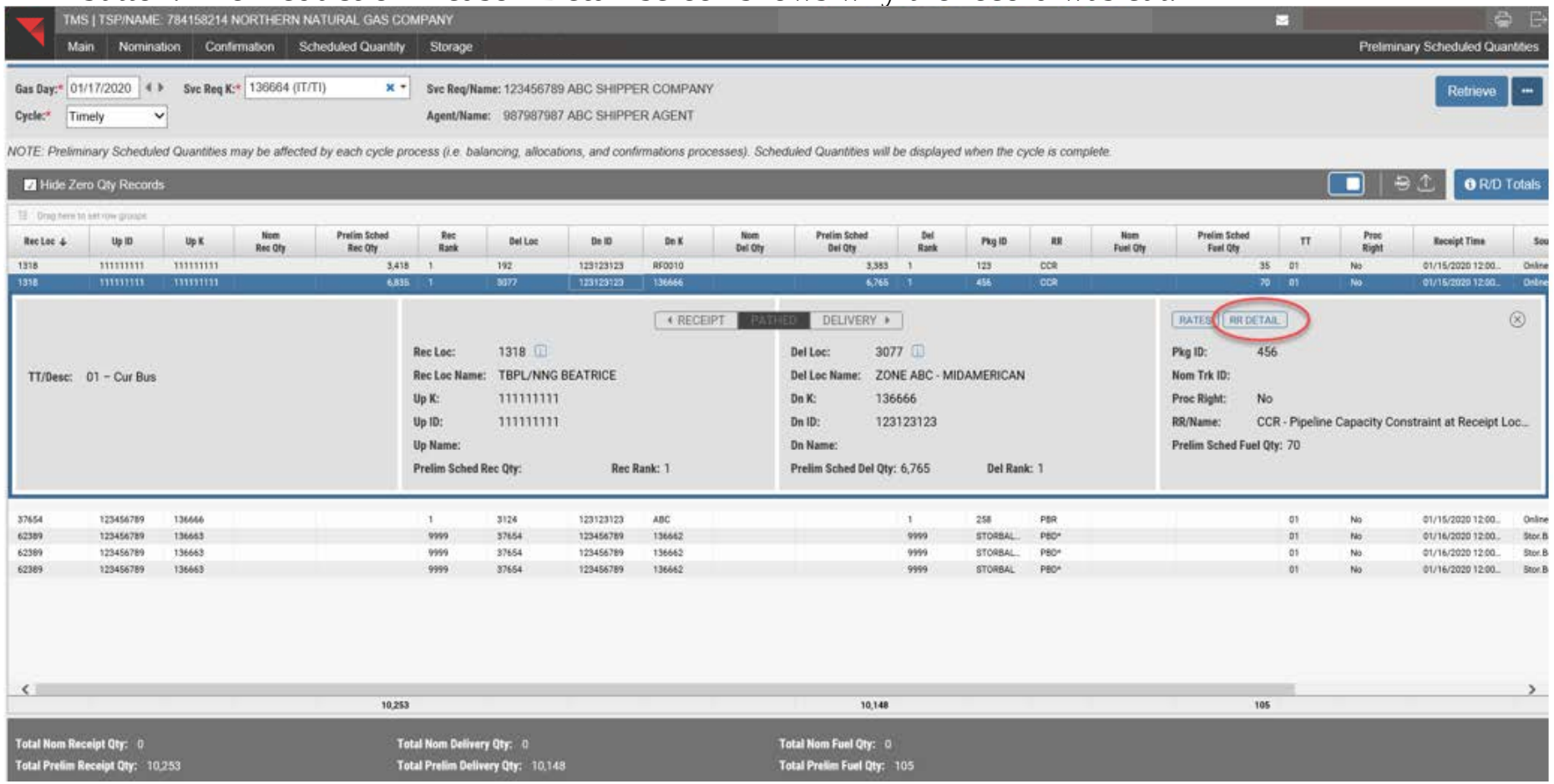
Confirmation – Location Reconciliation

- Allows a user to view, filter and compare nomination quantities to confirmation quantities between current and previous cycle for a specified gas day
- View by: **Nom Qty vs Conf Qty** or **Nom Qty vs Prev Nom Qty**



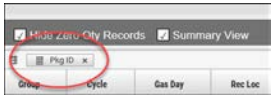
Scheduled Quantities

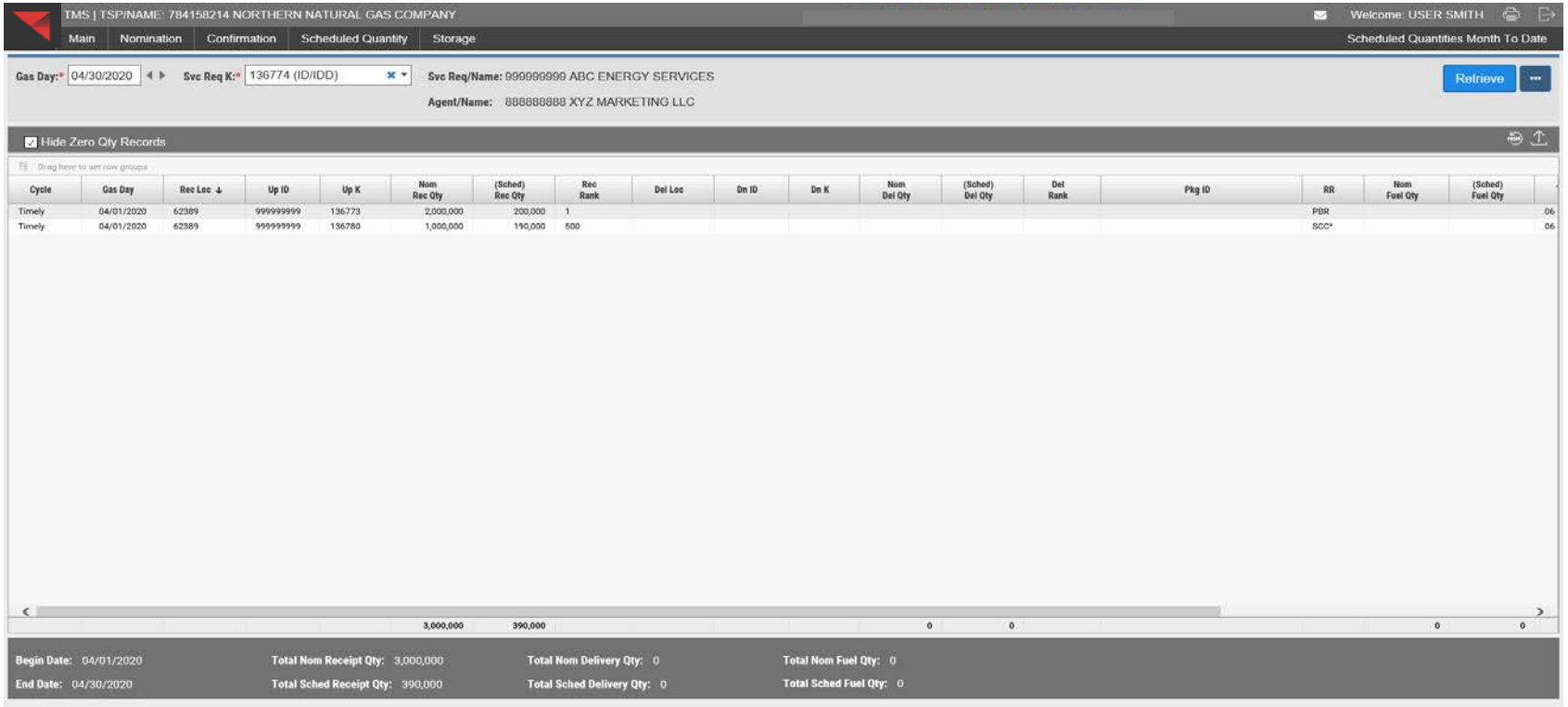
- This screen allows the user to view nominated and scheduled quantities by cycle for a specified gas day
- To detect a record that is getting cut, highlight the record with an RR code. Select the RR Detail button. The **Reduction Reason Detail** screen shows why the record was cut.



Scheduled Quantity - Scheduled Quantities Month to Date

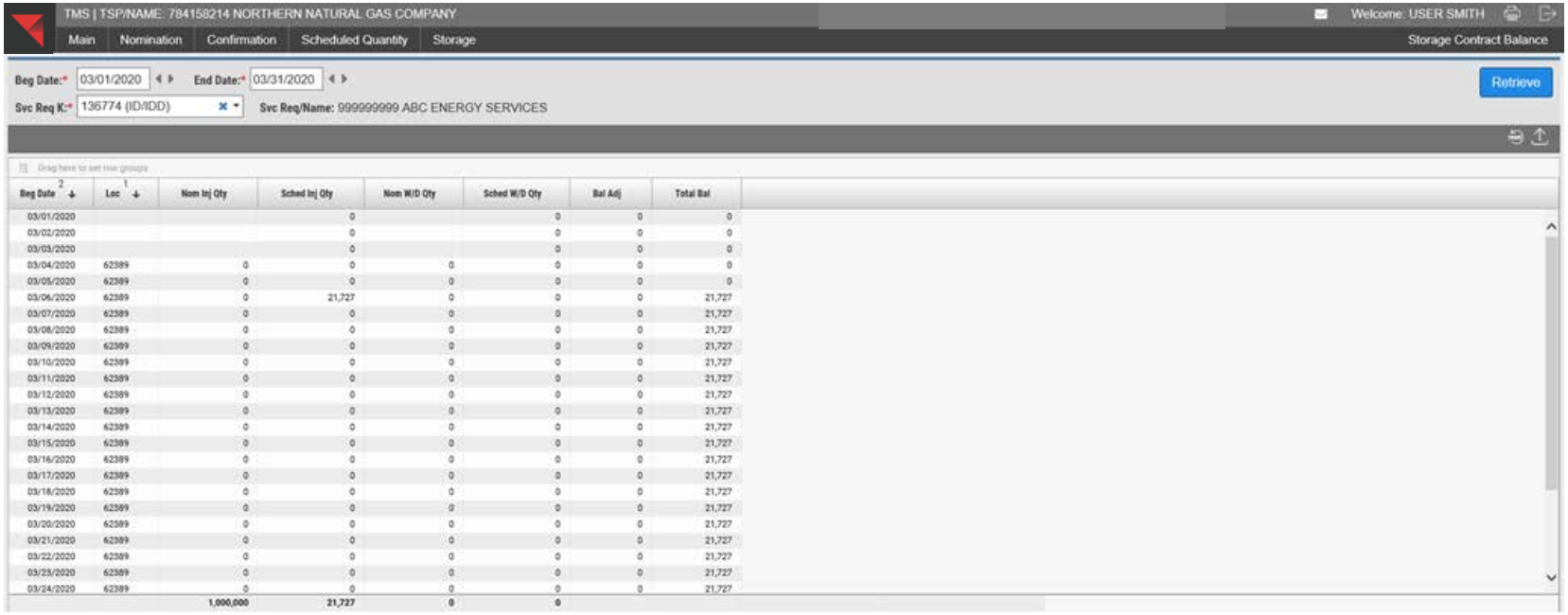
- This screen allows the user to view nominated and scheduled quantities for a contract for a specified date range.
- User can open **Nomination Maintenance** or **Nomination Quantities by Cycle** screen by selecting the ellipsis in the top right corner
- Apply filter options by setting a pin on preferred columns

- Apply grouping functions by dragging the selected the column to the grouping bar 



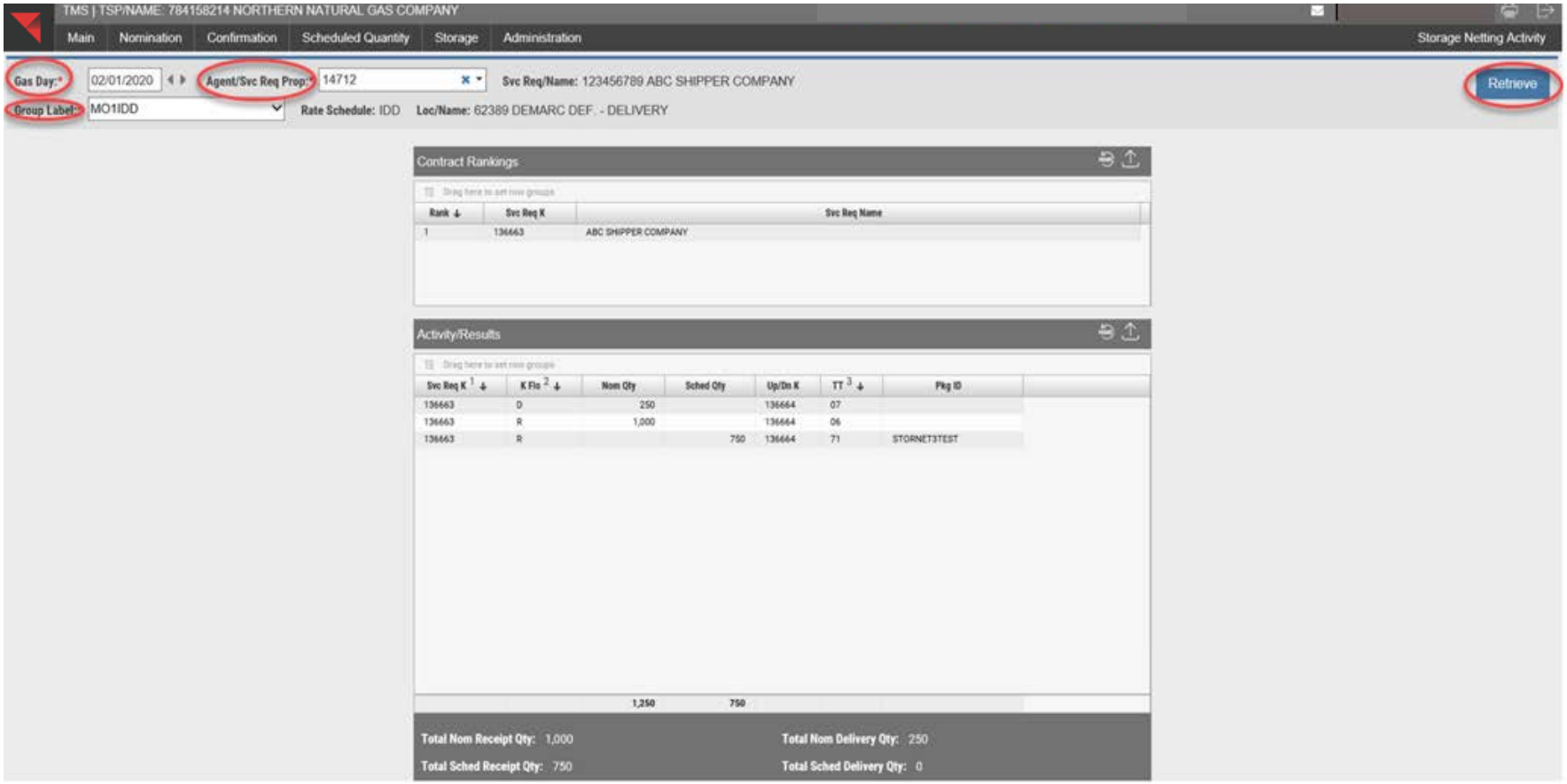
Storage – Storage Contract Balance

- This screen displays nomination and scheduled activity for a selected contract
- To view this screen, select **Storage** and then **Storage Contract Balance**
  - Provides a running total for injection and withdrawal activity
  - Drag columns to the filter row to filter by the selected column



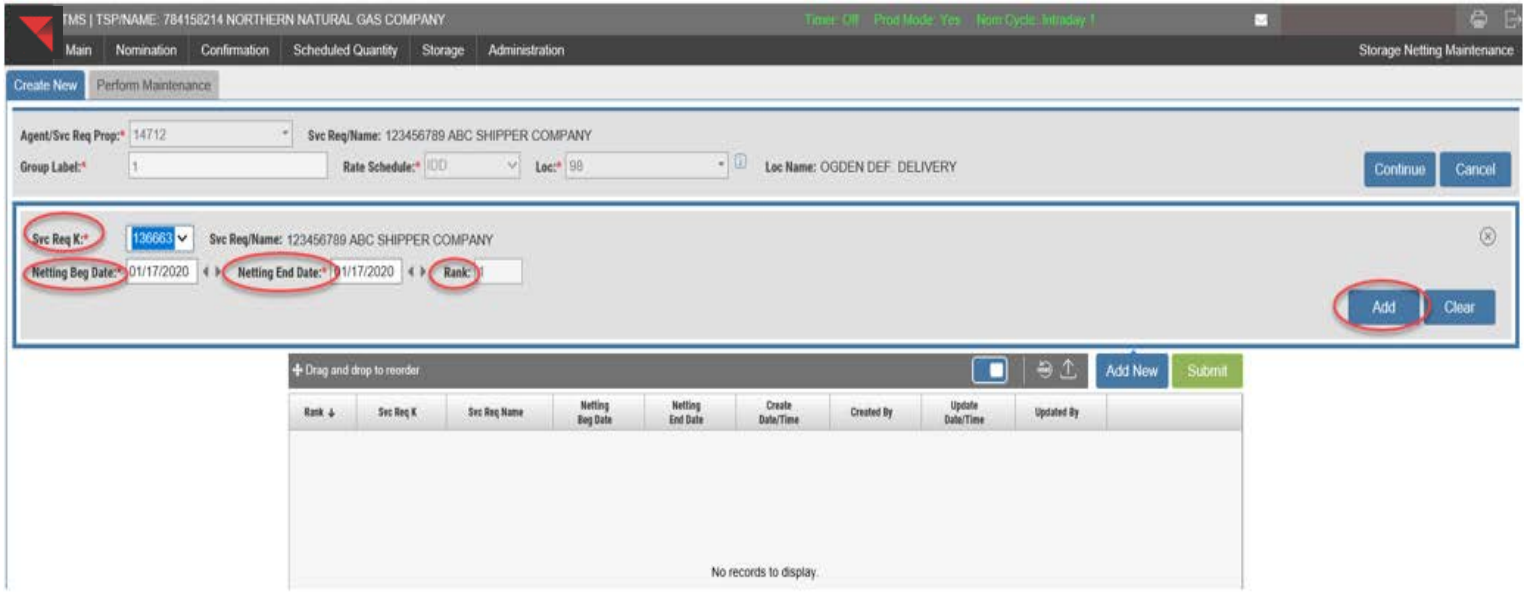
Storage - Storage Netting Activity

- Allows the user to view storage netting transaction detail for a particular entity and group based on user's input criteria.
- To access this screen, select **Storage** and then **Storage Netting Activity**.
- Enter **Gas Day, Agent/Svc Req Prop** and **Group Label** and select **Retrieve.**



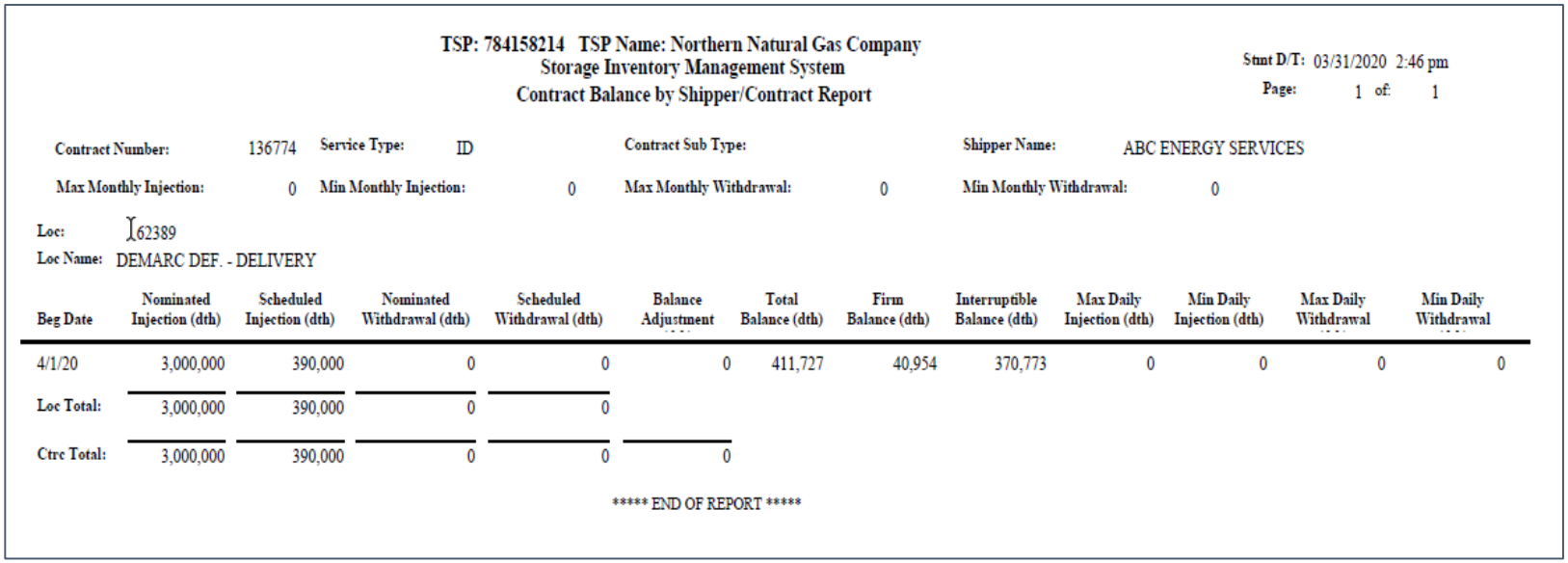
Storage Netting Maintenance

- Allows user to set up storage netting for a specific storage location by storage rate schedule
- **To set up:**
  - Create **Group Label**
  - Select **Rate Schedule**
  - Select **Location**
  - Select Continue
- **To add:**
  - Select **Svc Req K**
  - Select **Netting Beg** and **End Date**
  - Select **Rank** (ranks the contract when you have multiple in the same Group Label)



Contract Storage Balance by Day Report

- A report that displays nomination and scheduling activity for a storage contract by gas day or month-to-date totals
- Select format as a PDF or Excel and click Retrieve



TSP: 784158214 TSP Name: Northern Natural Gas Company
Storage Inventory Management System
Contract Balance by Shipper/Contract Report

Stmt D/T: 03/31/2020 2:46 pm
Page: 1 of: 1

Contract Number: 136774 Service Type: ID Contract Sub Type: Shipper Name: ABC ENERGY SERVICES

Max Monthly Injection: 0 Min Monthly Injection: 0 Max Monthly Withdrawal: 0 Min Monthly Withdrawal: 0

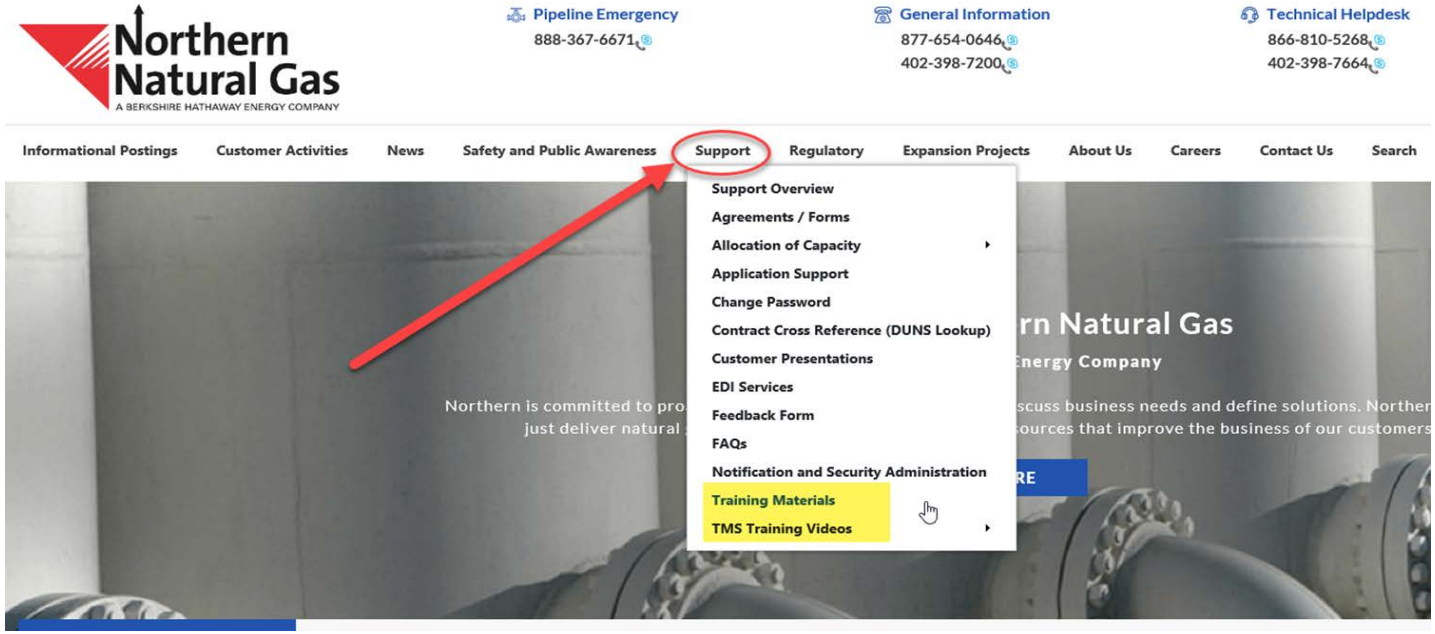
Loc: 162389
Loc Name: DEMARC DEF. - DELIVERY

Beg Date	Nominated Injection (dth)	Scheduled Injection (dth)	Nominated Withdrawal (dth)	Scheduled Withdrawal (dth)	Balance Adjustment	Total Balance (dth)	Firm Balance (dth)	Interruptible Balance (dth)	Max Daily Injection (dth)	Min Daily Injection (dth)	Max Daily Withdrawal	Min Daily Withdrawal
4/1/20	3,000,000	390,000	0	0	0	411,727	40,954	370,773	0	0	0	0
Loc Total:	3,000,000	390,000	0	0								
Ctrc Total:	3,000,000	390,000	0	0	0							

***** END OF REPORT *****

Training Video Clips

- Dashboard, Inbox and Navigation
- EDI Processing
- Filtering, Grouping and Sorting Data
- Nomination Copy
- Nomination Quantities by Cycle
- Nomination Reconciliation
- Preliminary Scheduled Quantities and Reduction Reason Detail
- Search and Advanced Search
- Storage Contract Balance
- Storage Netting



VALUE PROPOSITION

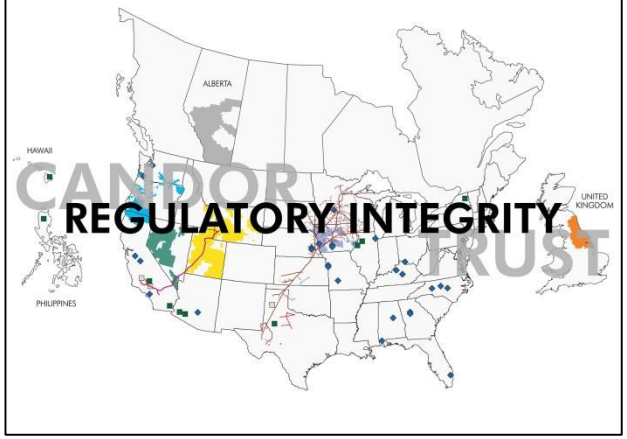
CUSTOMER SERVICE

PEOPLE

EMPLOYEE COMMITMENT

REDUCING IMPACT

ENVIRONMENTAL RESPECT



CANDOR TRUST

REGULATORY INTEGRITY

EFFECTIVE EFFICIENT

OPERATIONAL EXCELLENCE

BERKSHIRE FINANCIAL STRENGTH OWNERSHIP