

Review of Enduring NTS Exit Capacity Price Setting

Gas TCMF 02nd September 2010

Introduction

A presentation at the July 2010 Gas TCMF covered:

- NTS Exit Capacity Charge sensitivity to modelled flows from 2012
- Potential problems have been identified with the high modelled demand flows. This is as a result of the use of the highest between baseline or baseline + incremental capacity, namely:
 - Total modelled demands may be greater than supplies
 - Price variability
 - Baseline may no longer reflect “connected load”

Introduction

The TCMF was asked:

- “Is this an issue that we need to address before the 2011 application window or before 1st October 2012?”
- “What alternative demand/flow data could we consider within the charging methodology?”
- “What further analysis should we carry out?”

TCMF requested a review of the methodology principles and objectives

Introduction

This Presentation will cover

- Exit Capacity Price Methodology
 - Now
 - From 01st October 2012
- Development of GCM05
- Issues
- Options
- Options Assessment Criteria
- National Grid – Initial view
- Way Forward

Exit Capacity Price Methodology

Now

- Flow/Demand data
 - Distribution Networks (DN's) at forecast of National 1/20 peak day demand
 - Direct Connects (DC's) at Booked Firm Capacity
 - Bi-directional exit points treated as supplies and modelled as entry flows with zero exit flow

From 1st October 2012

- Flow/Demand data:
 - Maximum of baseline or allocated exit capacity at each non-bi-directional exit point
 - Sale of baseline treated as TO revenue whereas sale above baseline is SO revenue
 - Bi-directional exit points treated as supplies and modelled as entry flows with zero exit flow
- Capacity Data:
 - Baseline (TO) exit capacity at all exit points
 - The capacity data is used to ensure that prices are adjusted so that implied revenue (price multiplied by Capacity quantity) equals the target revenue

GCM05 – Initial Proposals

- National Grid raised and consulted on GCM05 on 18th July 2008 in light of responses to GCD01, and UNC Mod0195 & 0195AV
 - GCM05 proposed the adjustment of Exit Capacity charges and reserve prices to recover the total TO Exit Capacity target revenue through NTS Exit (Flat) Capacity charges
- On 19th January 2009 Ofgem issued its decision on 0195AV
 - Ofgem observed that due to “*revenue foregone*” becoming part of TO revenues (instead of SO) shippers booking firm exit capacity would bear all the cost of revenue foregone through increased exit charges
 - Ofgem also observed that the modelled demand flows should be more representative of the connected load which bookings, at the time of setting prices, might not be and daily bookings would not be known

GCM05 – Revised Proposals

National Grid consulted with the industry and, as a result, published revised proposals for GCM05 to model and adjust charges to baseline exit capacity which aimed to ensure:

- More stable charges in that Baselines were not expected to change often
- Exit points relying on off-peak would attract a more appropriate level of TO costs
- Greater transparency of numbers published in the public domain

Revenue associated with unsold exit capacity would be recovered through a TO Exit Commodity charge component

Main Issues

Potential problems with the high modelled demand flows as a result of the use of the highest between baseline or baseline + incremental capacity, namely:

- Total modelled demands may be greater than supplies
- Price variability
- Baseline may no longer reflect “connected load”

TCMF requested a review of the methodology principles and objectives.

We have identified various options for the modelled demand flows and carried out an initial evaluation against the relevant objectives, as set out in the NTS Licence.

What options do we have?

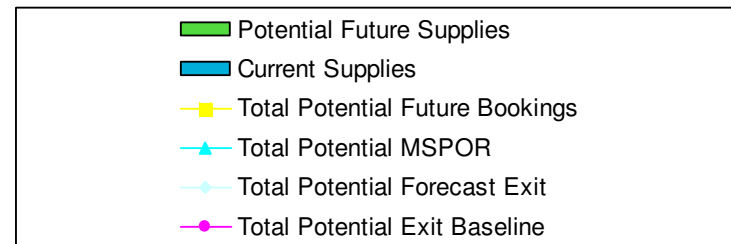
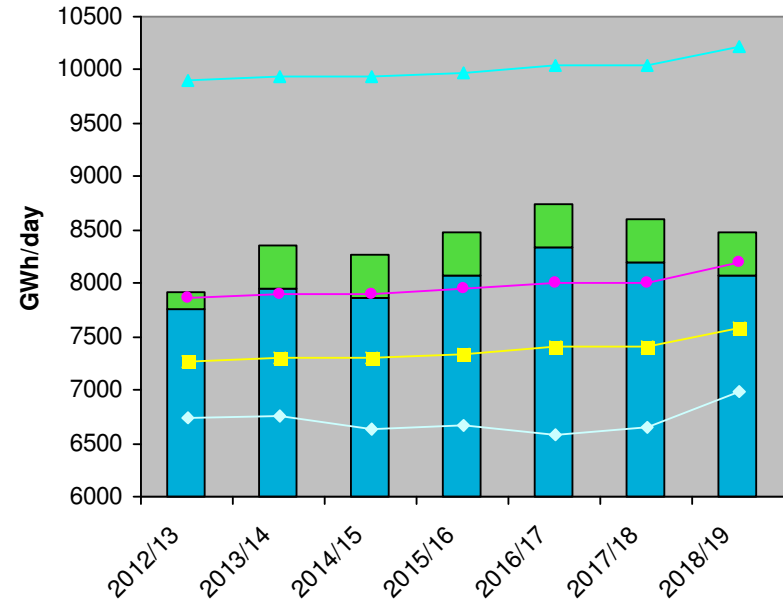
Options identified were as follows:

- Annual Capacity Bookings
- Highest of Baseline / Incremental
- Forecast (process to be defined / agreed)
- MSPOR (max NTS Offtake Rate x 24)
- Capability of the downstream facility
- Zero

As with the current methodology different data sources may be used with different Offtake types.

Issue – Demand Data

- Using MSPOR
 - There will be insufficient supplies to meet demand
 - Might not reflect use of the system
- Using Baseline + Incremental
 - Might reflect the potential use of daily firm and off-peak capacity products
 - There is a risk that this approach will create a flow/demand level that is so high that
 - There will be insufficient supplies
 - Prices may not appropriately reflect cost
- Using Bookings
 - Reduces the risk of there being insufficient supplies to meet demand
 - Issues around the use of Daily and Off-Peak Capacity
- Using Forecast
 - Provides least risk of there being insufficient supplies to meet demand



NB 'Current Supplies' includes UKCS plus connected operational facilities

Zero Demand Flow

- Currently, and for enduring exit from 01st October 2012, Storage and bi-directional Interconnectors are modelled with zero flow in the Transportation Model
 - For these sites the capacity data is used in the process of calculating the revenue adjustment factor
- These sites are modelled at zero
 - To avoid double-counting of costs when setting entry and exit capacity prices, and
 - As they are expected to operate in entry mode during peak days
- Our initial view is that zero flow for these sites is probably appropriate when setting all other exit prices, however this might need to be reviewed if significant exit costs are identified in relation to firm exit capacity at these sites
 - An alternative approach maybe to have a separate off-peak scenario to model these sites flowing

Options Assessment Criteria

Licence Objectives

“Reflect Costs”

reflect the costs incurred by National Grid NTS where charges are not determined by auctions; (principal consideration);

“Developments in the Business”

take account of developments in the transportation business;

“Facilitate Competition”

facilitate competition between gas shippers and between gas suppliers;

Auctions only

“Promote Efficiency”

to promote efficiency and avoid undue preference in the supply of transportation services;

“Promote Competition”

to promote competition between gas suppliers and between gas shippers.

National Grid - Initial view against Licence objectives

Objectives	Interpretation	Bookings	Highest of Baseline / Incremental	Forecast Demand	MSPOR	Capability (where different from others)
Reflect Costs	Consistent with Planning / Network Investment Process?	Maybe (but issues with multi-shipper sites & DN's)	Maybe (but issues with multi-shipper sites & DN's)	Yes	No	Maybe
Promote Efficiency						
Developments in Business	Reflective of changing supply & demand patterns?	Maybe	Maybe	Yes	No	Maybe
Facilitate / Promote Competition	Is the data clear, transparent, consistent?	Yes	Yes	Maybe	No	Maybe

* Booking were considered at the time of GCM05 but not used as some DC's might rely on off-peak & daily capacity, which would be unknown at the time of setting prices. It might be assumed that the DN's would book to meet their 1/20 requirement.

National Grid - Initial view by Offtake type

*All figures 2012/13 unless otherwise stated	Zero	Bookings	Highest of Baseline / Incremental	Forecast Demand	MSPOR	Capability
Direct Connects	Deemed to be flowing	Bookings 1675 GWh/d	BL / Inc 2334 GWh/d	Forecast 1633 GWh/d	MSPOR ¹ 2175 GWh/d	Unable to arrive at a figure different to MSPOR
Distribution Networks	Deemed to be flowing	Bookings 4997 GWh/d	BL / Inc 5465 GWh/d	Forecast 4344 GWh/d	MSPOR ¹ 7299 GWh/d	Unable to arrive at a figure different to MSPOR
Storage	NTS Supply @ peak	NTS Supply @ peak				
Bi-Dir Interconnectors	NTS Supply @ peak	NTS Supply @ peak				
Moffat	Deemed to be flowing	Booking 529 GWh/d	BL / Inc 529 GWh/d	Pk Forecast ² 381 GWh/d Historical Peak 292 GWh/d	MSPOR	Max Capacity ³ 344 GWh/d Forecast of Tech.Cap ⁴ 339 GWh/d

Least Viable
 Problematic
 Most Viable

¹ Aggregate MSPOR's as of August 2010.

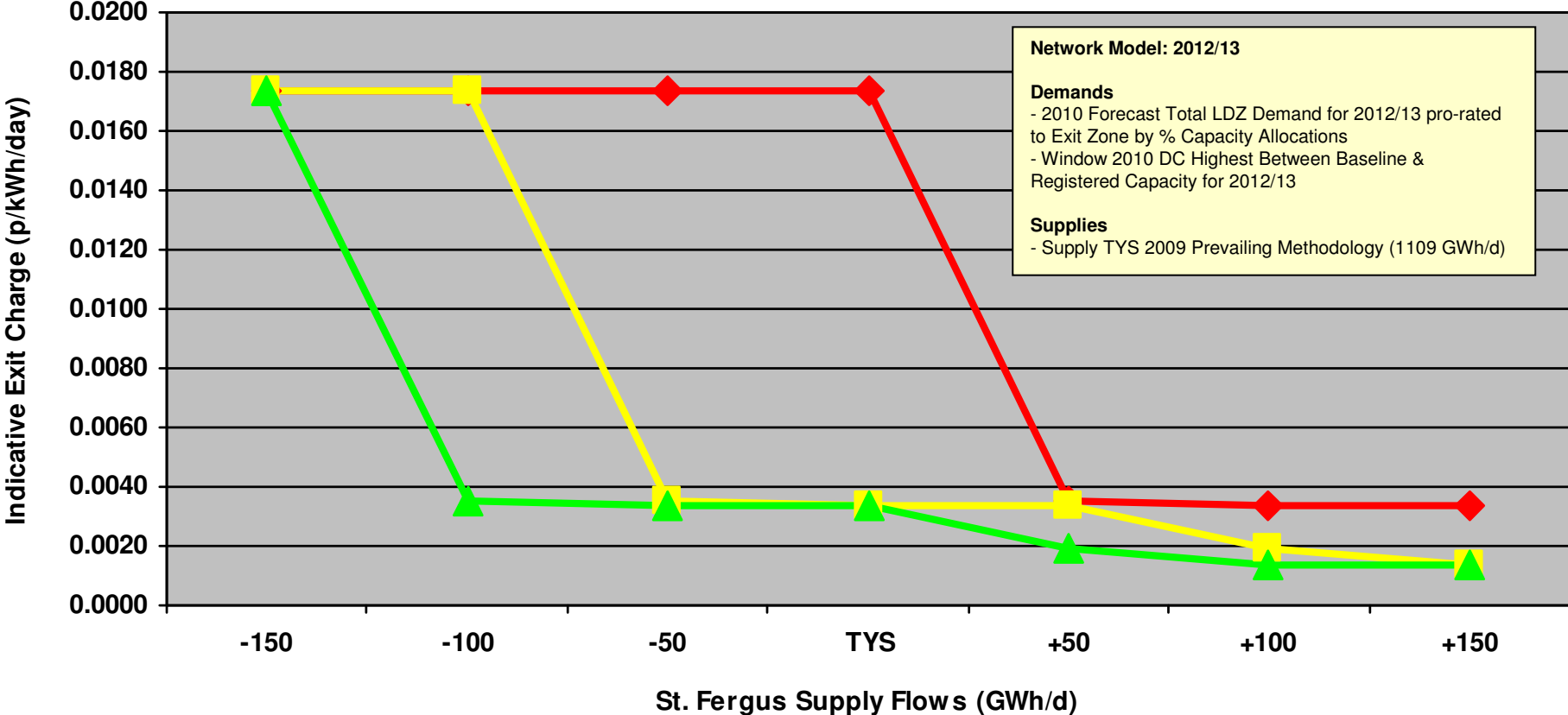
² Peak Forecast Demand of any year up to 2024.

³ Current estimates of Physical Capacity (into Ireland) under normal operating conditions (GasLink Website).

⁴ Forecast of Tech. Capacity = Max capacity that can be made available to Shippers at the point for the first gas day of the gas year (GasLink Website).

Issue – Price Sensitivity

Moffat Exit Capacity Charges per modelled demand and various St. Fergus supply flows



◆ Moffat Baseline + Incremental Flow (530)
 ■ Moffat Baseline Flow (433)
 ▲ Moffat Peak Forecast Demand Flow (381)

Which Supply Data?

- TYS Forecast Supplies
 - Consistent with planning process, but
 - Leads to variability
- Baseline Supply data
 - Not reflective of physical gas deliverability - Unrealistically high?
- Averaging of TYS Forecast Supplies may help

Supply & Demand Balancing Rules

- Available supplies need to be adjusted such that a supply and demand balance is achieved within the Transportation Model
- For charge setting purposes, supplies are split into six groups as follows:
 - 1. Beach supplies (UKCS & Norway)
 - 2. Interconnectors
 - 3. Long-range storage
 - 4. LNG Importation
 - 5. Mid-range storage
 - 6. Short-range storage
- Each group is fully utilized if required, and each entry point component in the last group is scaled to achieve a supply and demand match

Does this need to be reviewed?

Way Forward

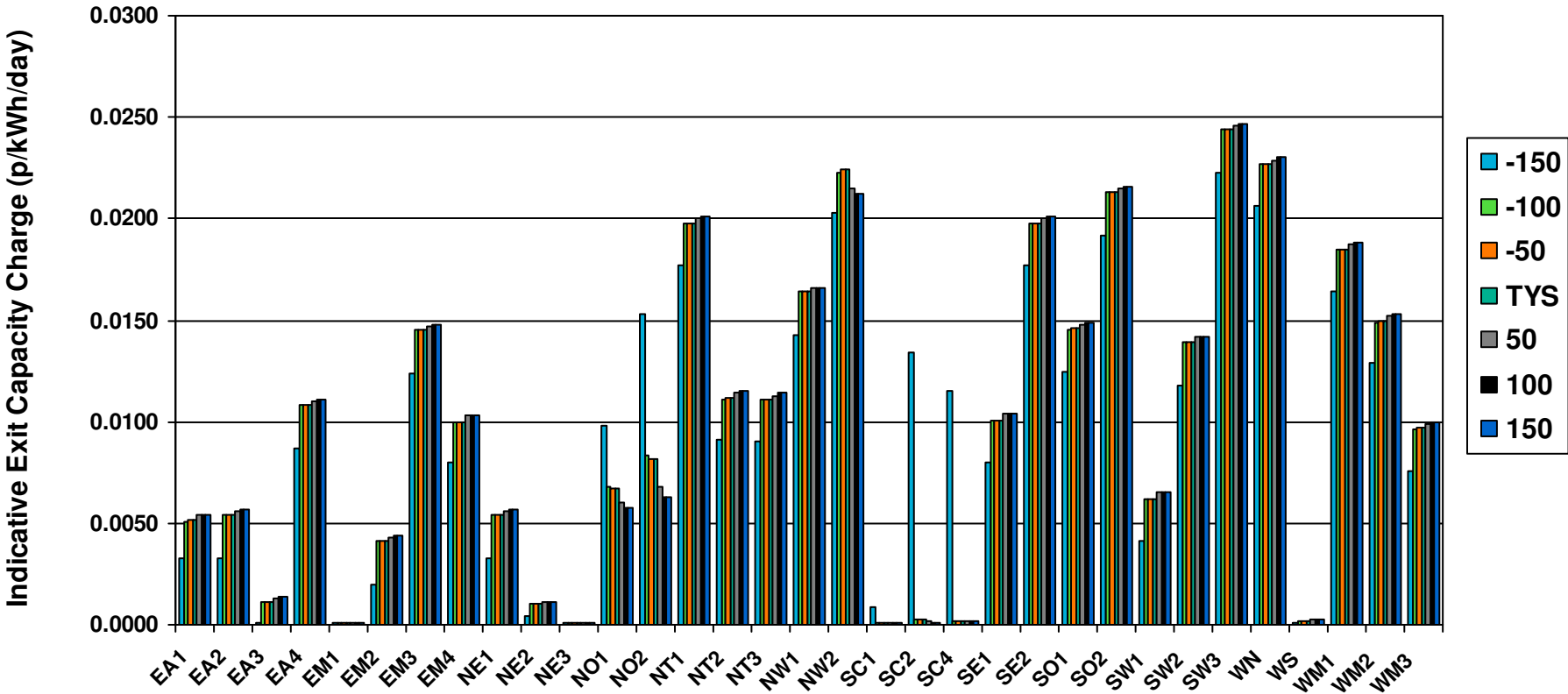
- Views are invited as to;
 - How this issue should be taken forward?
 - Discussion Paper?
 - What further analysis might be required?

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Additional Graphs

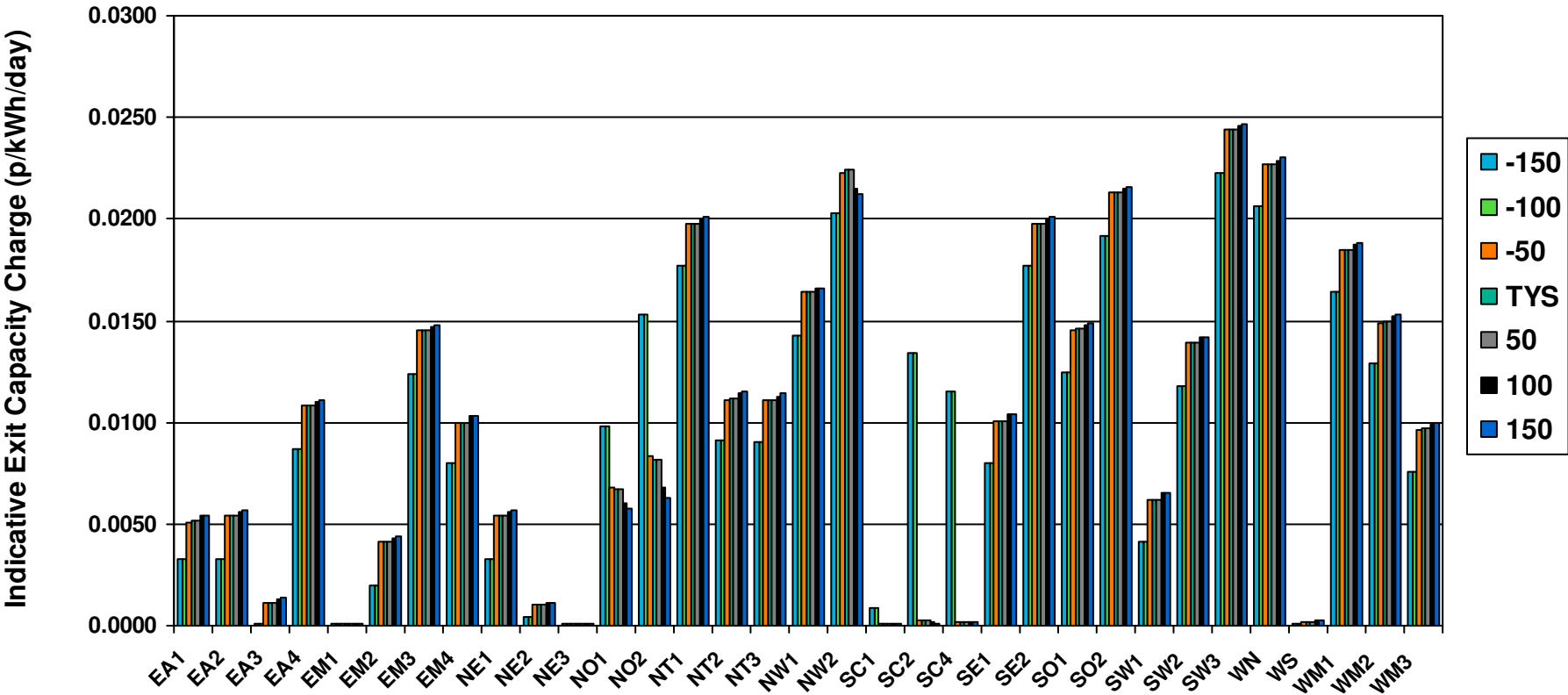
Additional Graphs

NTS Exit Capacity Charges per DN Exit Zone with Moffat at Forecast Peak Demand and various St. Fergus Supply flows



Additional Graphs

NTS Exit Capacity Charges per DN Exit Zone with Moffat at Baseline and various St. Fergus Supply flows



Additional Graphs

NTS Exit Capacity Charges per DN Exit Zone with Moffat at Baseline + Incremental and various St. Fergus Supply flows

