



Winter 2013-2014  
Cold Weather  
Recap  
May 29, 2014

Canadian Press 1/26/14



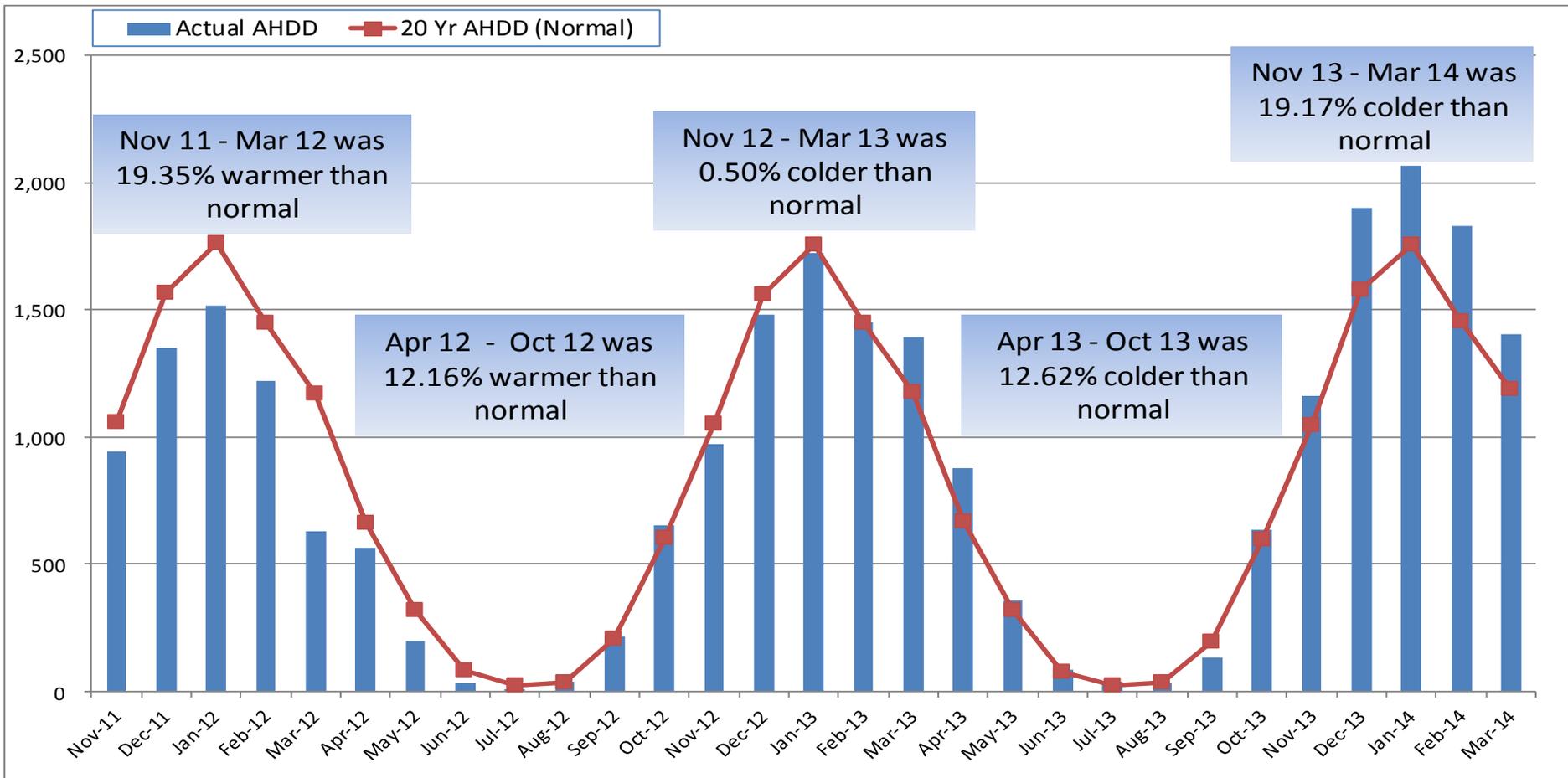
## MERC Highlights

### Winter 2013-2014

- November – March Weather (19% Colder Than Normal)
- Numerous Pipeline Issued Flow Restrictions
- Volatile Natural Gas Prices
- TransCanada Pipeline (TCPL) Pipeline Rupture
- Numerous Interruptible Customer Curtailments
  - ❑ Curtailments Due to Pipeline Constraints
  - ❑ Curtailments Due to Distribution System
- Lessons Learned

# MERC System-Wide Weather

## November 1, 2011 through March 31, 2014



## Pipeline Restrictions

### ➤ NNG

#### ☐ SOL (System Overrun Limitation)

#### Number of Days (76)

• November 2013	0
• December 2013	17
• January 2014	26
• February 2014	27
• March 2014	6

#### ☐ Critical Day

#### Number of Days (7)

• November 2013	0
• December 2013	0
• January 2014	3
• February 2014	2
• March 2014	2

### ➤ Viking

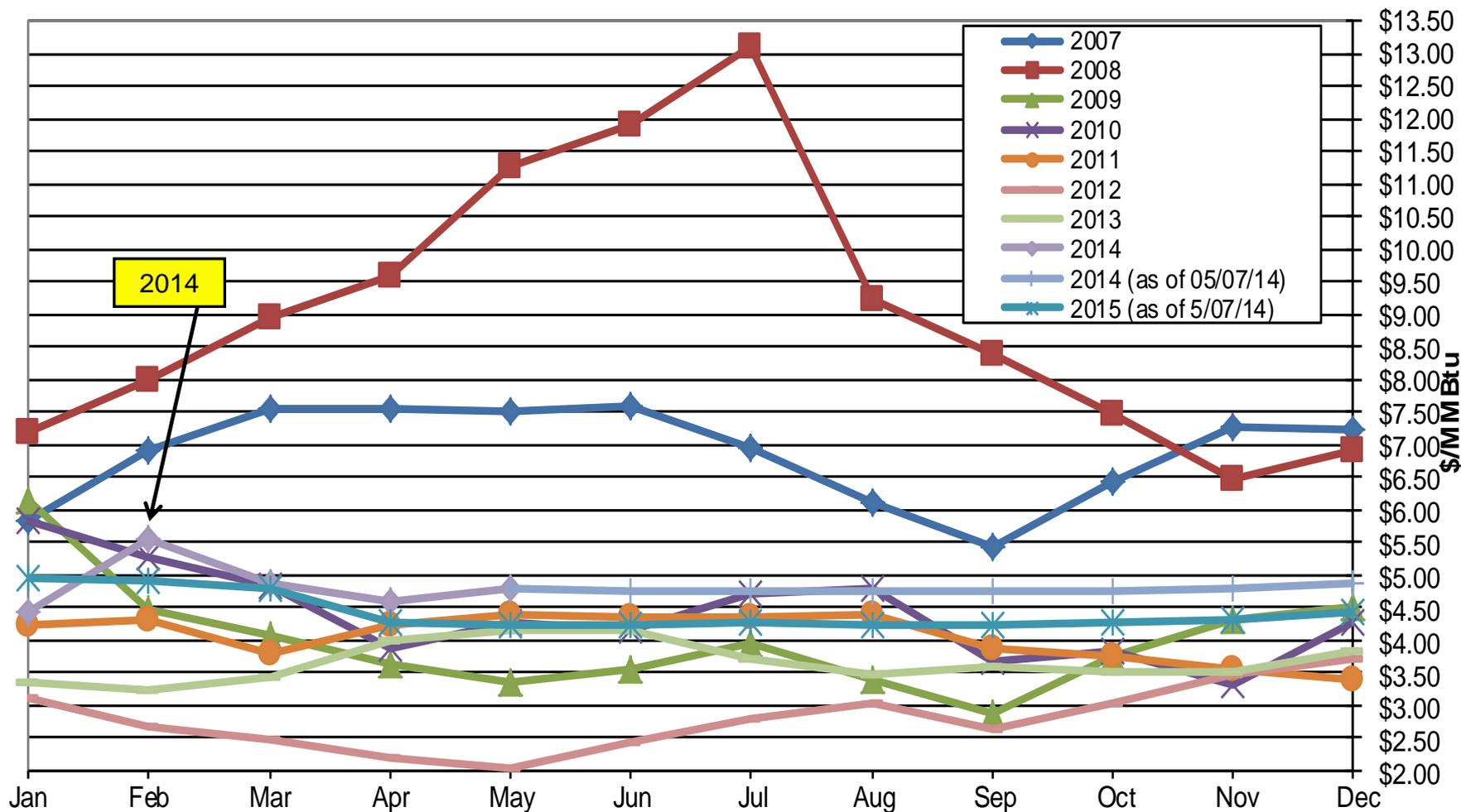
#### ☐ Force Majeure (1/25/14–1/27/14)

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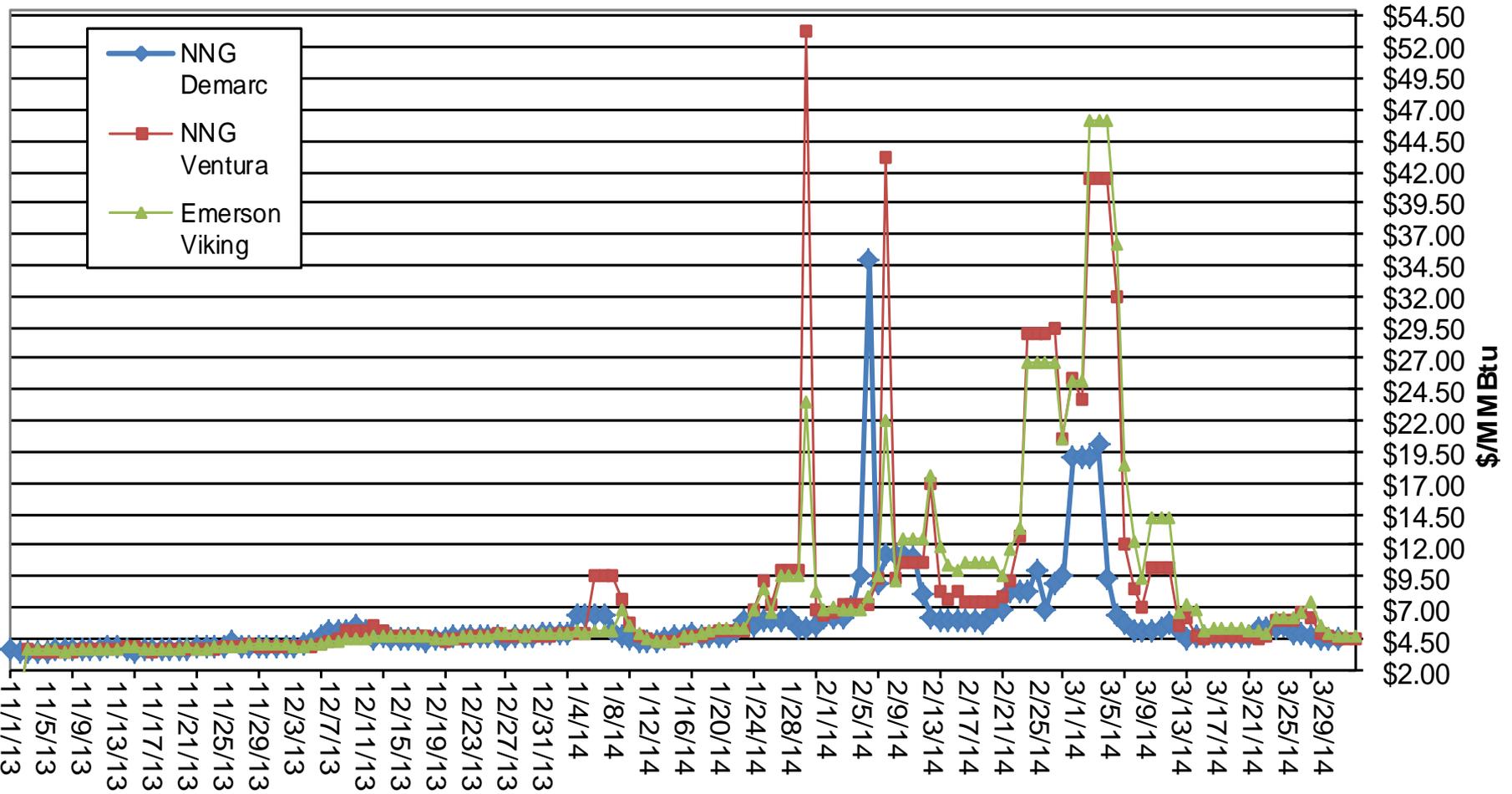
#### ☐ OFO – 12/26/13-12/30/14, 1/25/14-1/27/14

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# NYMEX Historical & Future Prices



# November 1, 2013 – March 31, 2014 Gas Daily Prices



## TransCanada - Pipeline Rupture on Jan 25 (Sat) in Manitoba, Canada



*Witness reported: "As we got closer, we could see these massive 200 to 300 metre (650 to 980 ft) high flames just shooting out of the ground and it literally sounded like a jet plane. And that's the thing that really got us, was the sound of it."*

## MERC Interruptible Customer Curtailment Events

### ☐ Jan. 5, 2014 – Jan. 7, 2014

- ✓ An Extremely Cold Polar Blast Moved into Minnesota
- ✓ MERC saw Forecasted AHDD Close to Design Day
- ✓ MERC Hasn't Seen AHDD that Cold Since February 1996
- ✓ Curtailed Small Volume Customers in Worthington, MN and Large Volume Customers System Wide
- ✓ Concerned About System Integrity and Serving Firm Customer Requirements

### ☐ Jan. 25, 2014 – Jan. 29, 2014

- ✓ Due to the TCPL Rupture/Explosion, MERC Curtailed Small Volume and Large Volume Customers on NNG, GLGT and VGT
- ✓ All LDC's with Customers Served off of VGT in Minnesota Involved
- ✓ Another Cold Polar Blast Moved in on Jan. 27, 2014
- ✓ Concern of Losing Firm Customers Especially on VGT
- ✓ Small Volume Customers Curtailment ended on Jan. 28, 2014
- ✓ Large Volume Customers Curtailment ended on Jan. 29, 2014

## Example of MERC Pipeline Constrained Curtailment

### ❑ Worthington, Minnesota

- ✓ NNG is the Upstream Interstate Pipeline Delivering to MERC
- ✓ NNG is Capacity Constrained
- ✓ Worthington Located at end of NNG Lateral
- ✓ Worthington Experiences Significant NNG Pressure Drops During Periods of Colder Weather
- ✓ MERC Curtails Large Volume Customers (2) to Address the Pressure Drop
- ✓ MERC Curtailed Large Volume Customer for Approximately Fifty (50) Full Days this Winter
- ✓ Requires NNG Expansion to Increase Capacity and Pipeline Pressure
- ✓ MERC is Working with NNG and Large Volume Customers to Address Issue
- ✓ Interstate Pipeline Infrastructure Necessary to Meet Growth

## Example of MERC Distribution System Constrained Curtailment

### ❑ Rochester, Minnesota

- ✓ NNG is the Upstream Interstate Pipeline Delivering to MERC
- ✓ Rochester has two NNG Feeds from the South (1B) and Northwest (1D)
- ✓ Growth Occurring at 1D
- ✓ NNG is Capacity Constrained
- ✓ Considerable Growth is Expected Due to Mayo DMC Announcement
- ✓ MERC Experiences Pressure Drop Especially at 1D Due to Increased Flows
- ✓ MERC Curtailed Large Volume Customers Jan. 25<sup>th</sup> – Jan. 29<sup>th</sup>
- ✓ Requires NNG Expansion to Increase Capacity and Pipeline Pressure
- ✓ MERC is Working with NNG and Northern Border Pipeline (NBPL)
- ✓ Interstate Pipeline and Distribution System Infrastructure Necessary to Meet Growth

## Lessons Learned

- First System-Wide Curtailments Under MERC
- MERC Implemented an Automated Notification System
  - ❑ Identified Areas to Enhance the System
  - ❑ Notification Process was more Efficient for MERC Employees
  - ❑ Curtailment Process Shortfalls were Identified and Addressed for the Future
- Various Integrys Department Worked Together During the Second Curtailment Event:
  - ❑ MERC Operations
  - ❑ Gas Supply
  - ❑ Regulatory
  - ❑ Communications
  - ❑ Gas Control
- Lessons Learned Discussions Occurred for Process Improvements
- Several Interrupted SV/LV Customers did not Fully Curtail Due to:
  - ❑ No Alternate Backup
  - ❑ Some Advised Alternate Backup Not Necessary – Lack of Curtailments
  - ❑ Alternate Backup Didn't Work
  - ❑ Some Just Chose to Burn Regardless
- SV/LV Customers Billed Approximately \$965,000 in Penalties

