

PG&E's Winter 2013/2014 Operations

Reliably Managing Record Deliveries

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Mel Christopher

Senior Director
Gas System Operations



Summary of December Cold Weather Event

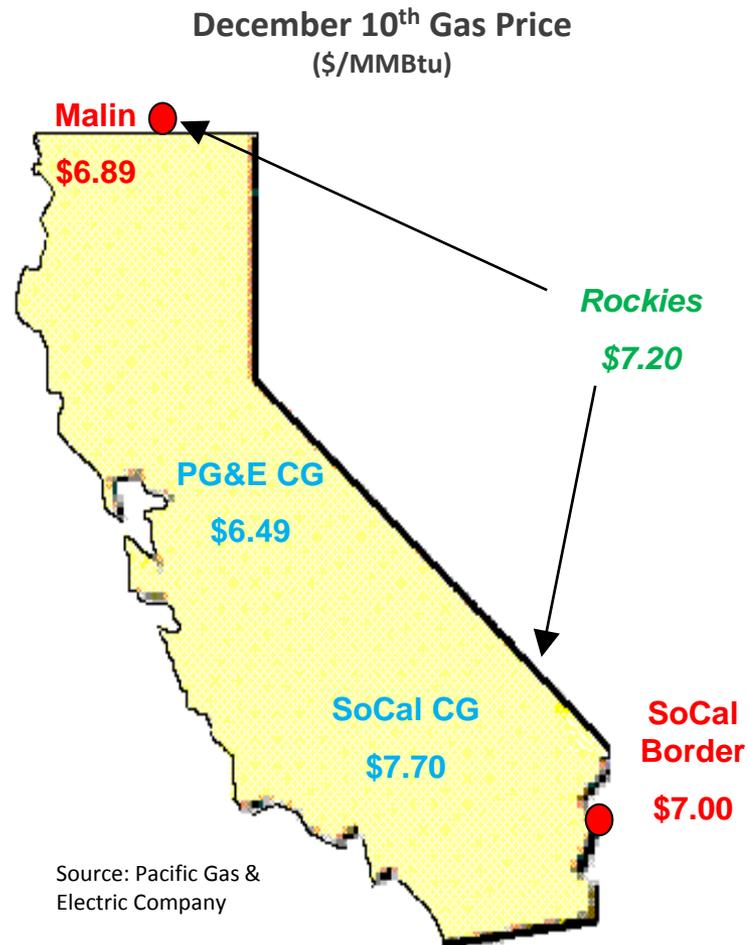


Summary of Cold Event *(Dec 4-11, 2013)*

- Western regional supply and demand balance shifted during the cold event
 - Record-setting demand for gas and electricity
 - Regional and internal gas and electric supply disruptions
 - Electric and gas flows were diverted to higher priced markets outside of CA
 - Expected electric demands within California
 - PG&E generated in excess of PG&E load to meet Southern California electric demand and exports out of California
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- PG&E gas system total demand, electric generation gas demand, and gas storage withdrawal set record highs
 - Limited local non-core gas curtailments

Western Gas Prices

- Storage gas kept PG&E Citygate prices lower than CA Border, Rockies, and San Juan
- Southern California prices were higher than Northern California because of larger gas demand increase and higher source basin prices
- Higher electric prices in the Northwest due to increased gas and electric heating demand and supply constraints

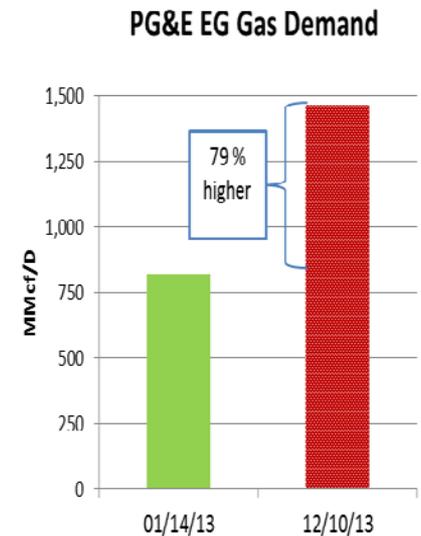
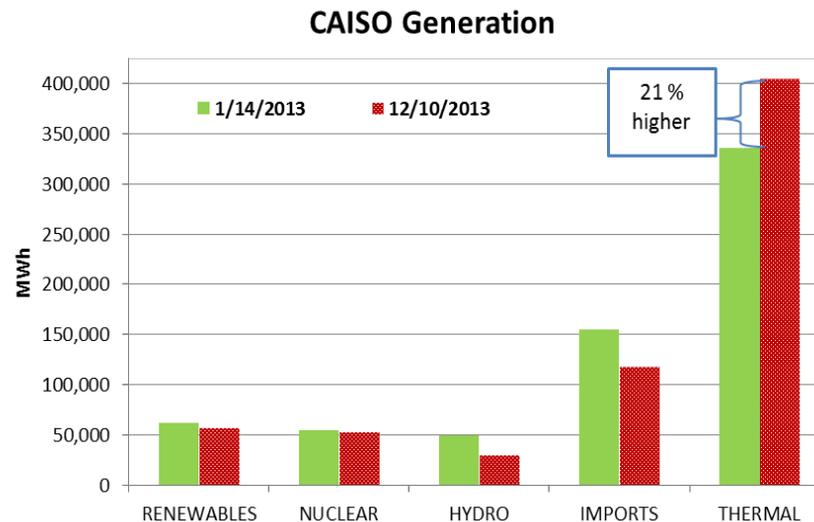
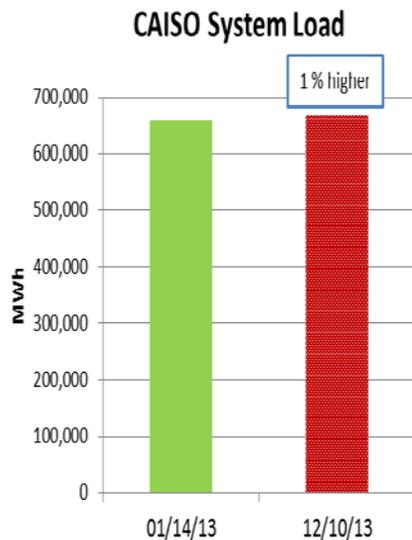


Source: Pacific Gas & Electric Company

Record High PG&E EG Gas Demand

On Dec 10, 2013:

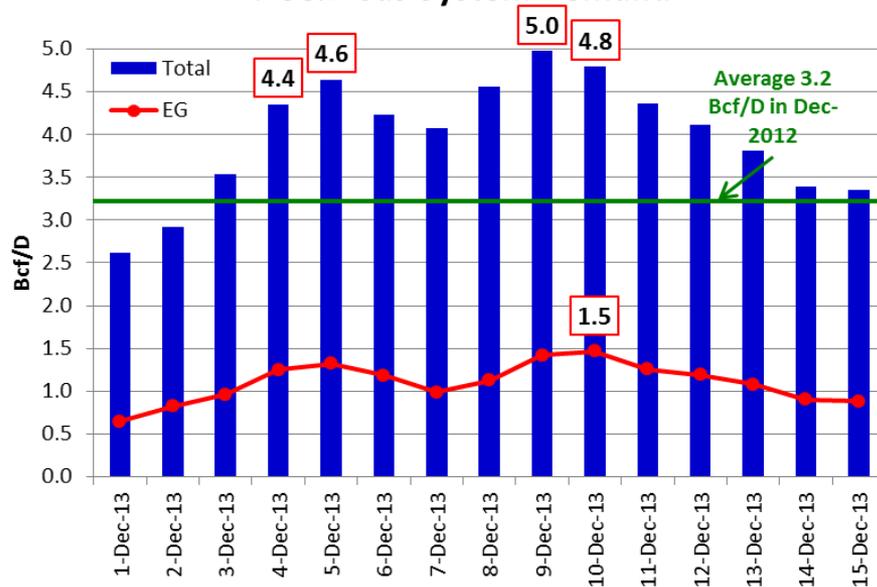
- CAISO system load 1% higher than on Jan 14, 2013
- CAISO thermal generation 21% higher vs. Jan 14, 2013, driven by lower hydro and renewable generation and lower electricity net imports
- PG&E EG gas demand 79% above Jan 14, 2013



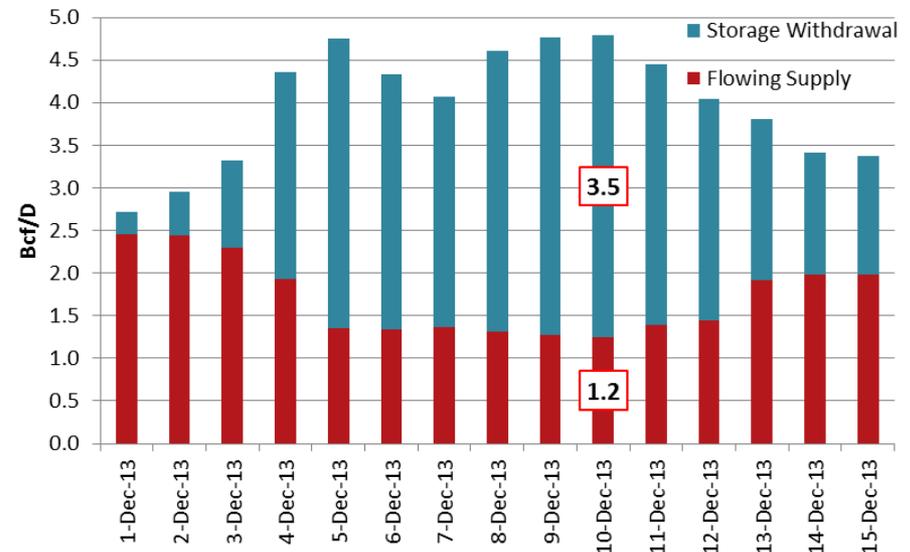
PG&E Gas System Demand and Supply

- PG&E gas system demand set a new record at 5 Bcf on Dec 9, 2013
- PG&E electric generation (EG) gas demand peaked at 1.5 Bcf/D on Dec 10, 2013, a new record for winter season
- Record storage withdrawal: accounted for meeting 74% of Dec 10, 2013, gas system demand

PG&E Gas System Demand

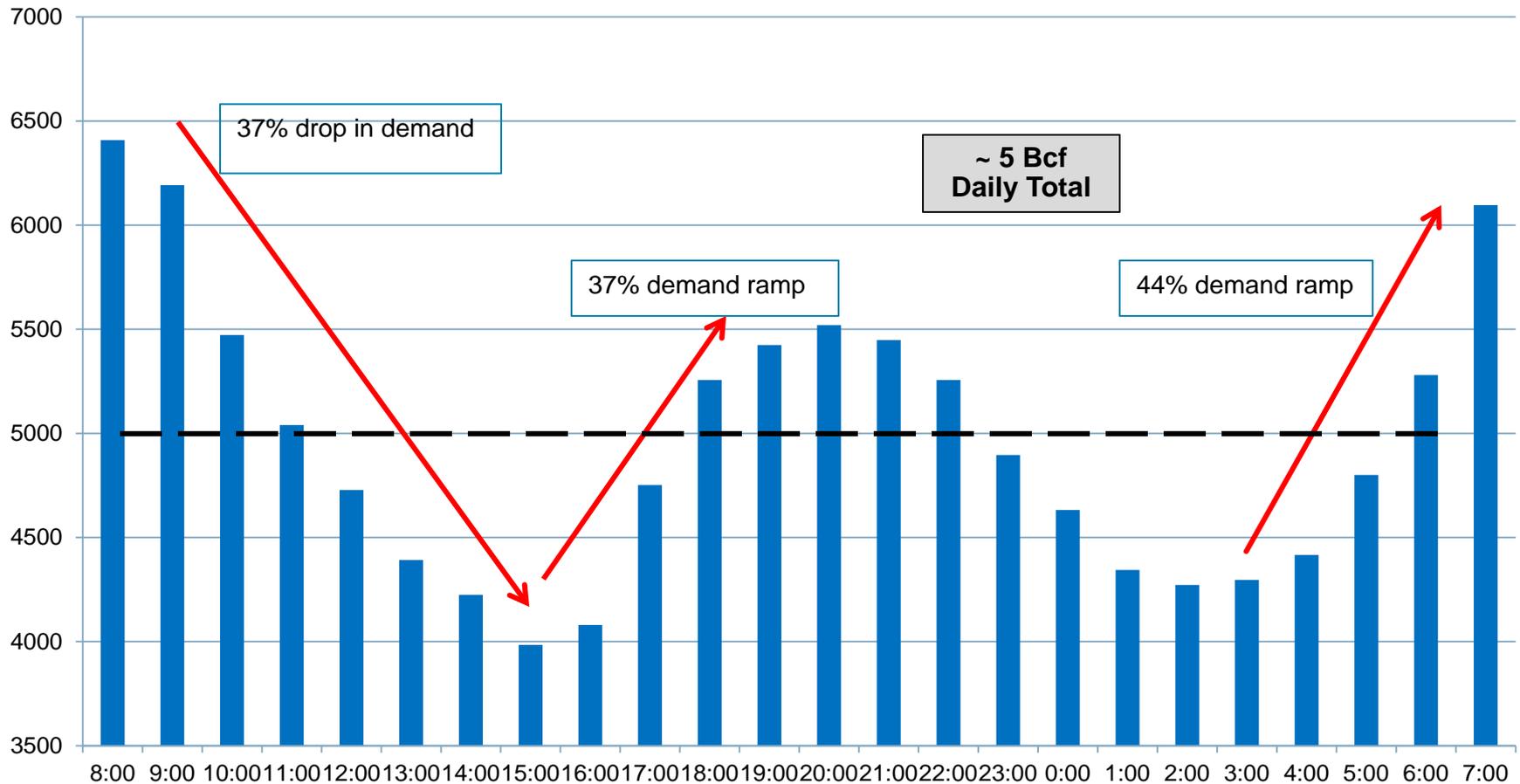


PG&E Gas System Supply



Demand Information

Demand in a 1 day period (Gas Day 12/9)



Summary of February 6th

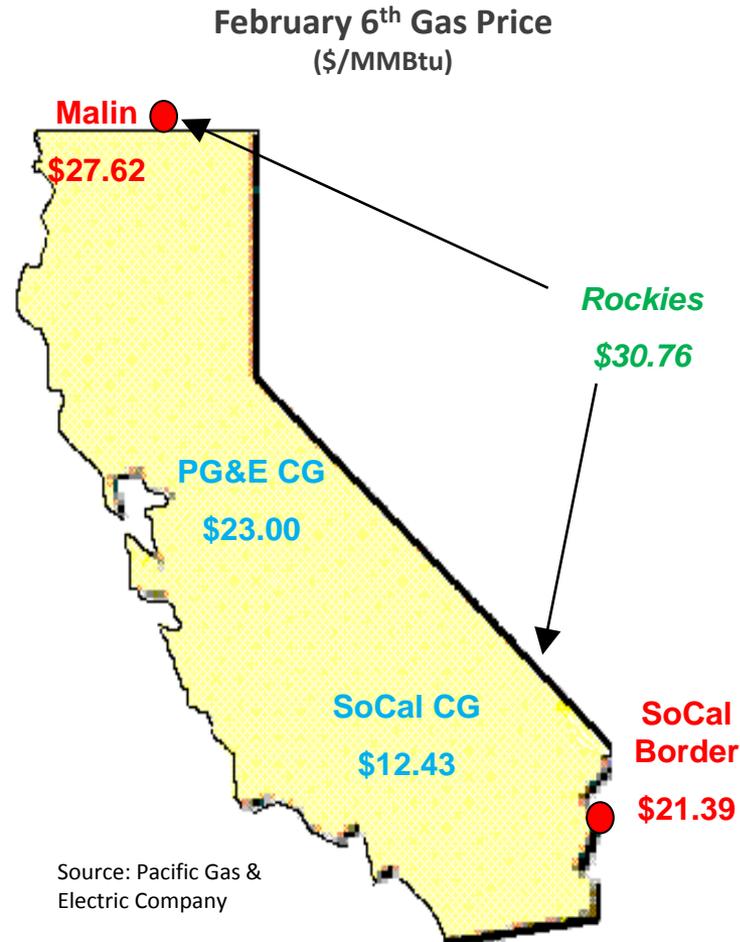


Summary of February 6th

- Weather in the PG&E service territory was normal for time of year
- Electric and gas flows were diverted to higher priced markets outside of CA
- Expected electric demands within California
- PG&E EG gas demand was up significantly, 1.2 Bcf/D
- On February 5, PG&E issued a Low Inventory OFO, for the 6th, with a \$25 per mmcf/day non-compliance charge due to low inventory on the PG&E system
- No PG&E gas curtailments

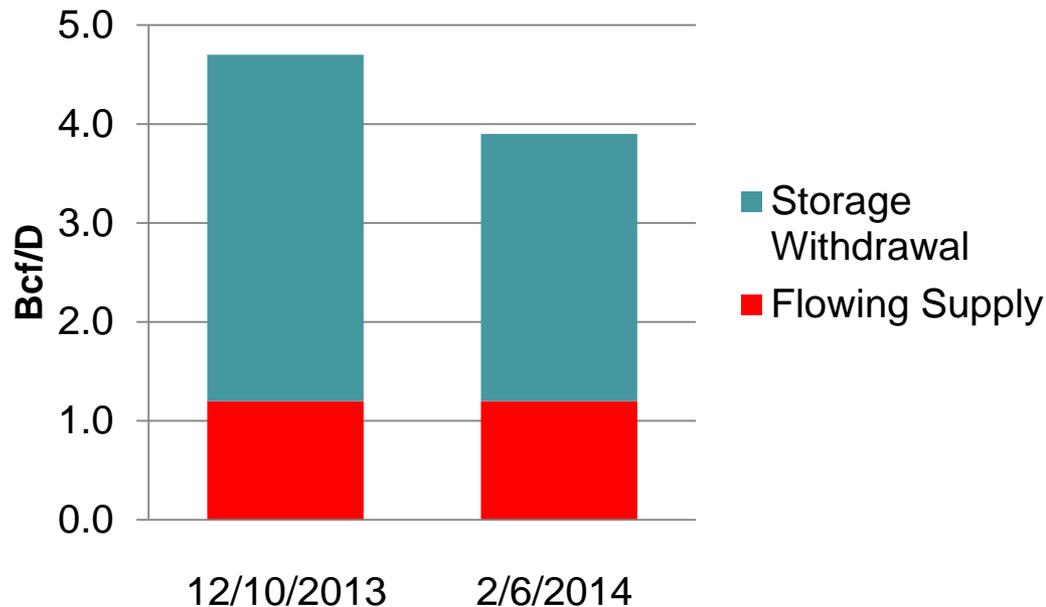
Western Gas Prices

- Storage gas kept PG&E Citygate prices lower than CA Border, Rockies, and San Juan
- Significant EG demand on the PG&E system due to higher gas prices outside California



PG&E Gas System Demand and Supply

- PG&E EG gas demand peaked at 1.5 Bcf/D on Dec 10, 2013
- PG&E EG gas demand was 1.2 Bcf/D on Feb 6, 2014
- Storage withdrawals were 74% of demand on Dec 10, 2013
- Storage withdrawals were 69% of demand on Feb 6, 2014



Observations and Lessons Learned

- **Gas Market Integration** – Cold weather that occurred this winter in the eastern and mid western markets impacted operations and gas prices across the U.S., including west coast markets. Operating flexibility of the gas system is critical.
- **Gas and Electric Coordination** – Improving gas and electric coordination is important. The current proposal in the FERC NOPR to change the start of the gas day from 7:00 A.M. to 2:00 A.M. PT and adding new scheduling cycles is under review at PG&E. Reliability implications are a part of the review.
- **Maintaining gas and electric reliability** – When gas supply and demand can't be balanced, curtailing large customers becomes one of the only options for gas utilities like PG&E. Among large customers, curtailing electric generation is frequently the remedy for maintaining gas system reliability. Gas system and electric system reliability standards are not aligned.
- **PG&E is a Hinshaw Pipeline** – Changes promulgated by the FERC require review and approval by the CPUC.

