

DOCKETED

Docket Number:	17-IEPR-11
Project Title:	Southern California Energy Reliability
TN #:	221862
Document Title:	Aliso Canyon Update Winter 2017-18
Description:	Aliso Canyon Update Winter 2017-18
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Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	11/28/2017 10:34:12 AM
Docketed Date:	11/28/2017



**California Public
Utilities Commission**



**California Energy
Commission**



**Los Angeles Department
of Water and Power**



California ISO

Aliso Canyon Update Winter 2017-18

Summary

November 28, 2017

2 Years Later: Still Working to Coordinate but Three Pipeline Outages Complicate Southern California Reliability

- Initial analysis showed upcoming winter impacts much like last winter's but with a little more gas at Aliso and a major pipeline outage
- October 1 rupture of Line 235-2 also damaged Line 4000 => leaves additional ~800 mmcf/d out of service (on top of Line 3000's outage)
- October 17 Picker/Weisenmiller letter to SoCalGas asked for mitigation plan
- October 30 SoCalGas reply saying noncore winter curtailments likely
- Staff analysis differs somewhat from SoCalGas on certain quantitative assumptions but agrees curtailment risk is higher
- Bottom lines:
 - Curtailments more likely this winter than last because of the pipeline rupture
 - Conservation needed to preserve storage inventory for core
 - May curtail noncore (besides EG) to preserve storage inventory for core
 - A lot will depend on weather

Winter Outlook Clouded by Pipeline Outages: Normal Firm Receipt Capacity into Northern Zone of 1590 mmcf/d is NOW 550

- Outages reduce Northern Zone **firm** receipt capacity to 550 mmcf/d
 - Line 3000 out until May (out last winter, too)
 - Line 4000 back in service December 30; restores 350 mmcf/d
 - Line 235-2 rupture restoration timing unclear
 - Assume 1:1 impact from prior hydraulic analysis
- Kern River (interstate pipeline) delivering up to 150 mmcf/d more; interruptible as depends on conditions
- SoCalGas contracting for capacity to move 200 mmcf/d south from Ehrenberg then west to Otay Mesa
- Resulting maximum system capacity ranges from 3,657 mmcf/d to 4,117 mmcf/d over course of winter (break out is on next page)

System Capacity and Maximum Supported Demand Vary Depending on Outage End Dates and System Mitigations

(MMcfd)	Period 1: Present-12/18/2017 Outage on Lines 3000, 4000, and 235-2; Maintenance at Playa del Rey	Period 2: 12/18/2017- 12/30/2017 Outage on Lines 3000, 4000, and 235-2	Period 3: Post 12/31/2018 Outage on Lines 3000 and 235-2 (Line 4000 back)
Supported Gas Demand from Table 1 of the 2016 Winter Assessment (Includes Line 3000 Outage)	4,567	4,567	4,567
Combined Outage Lines 4000/235-2	(800)	(800)	(450)
Playa del Rey Maintenance	(260)	0	0
Reduced Operating Pressure at Ehrenberg	(200)	(200)	(200)
Total Supported Demand: No Mitigation	3,307	3,567	3,917
Mitigation 1: Otay Mesa	200	200	200
Mitigation 2: Kramer Junction (Interruptible)	150	150	0
Total Supported Demand with Mitigations	3,657	3,917	4,117

Compared to last winter can serve 910 mmcfd (20%) less demand; becomes 450 mmcfd once Line 4000 is back in service.

1-in-10 Demand Shows Gas System Shortfall – even with Electric Generation Reduced to Minimum Generation

Table 11: Shortfall on a 1-in-10 Peak Day with Minimum Electric Generation and an N-1 Contingency

(MMcfd)	Present- 12/18/2017	12/18/2017- 12/30/2017	12/30/2017- 1/31/2018	Post- 2/1/2018
1-in-10 Customer Demand with Generation Adjusted to Minimum Levels	4,167	4,167	4,167	4,348
Supported Demand without Aliso Canyon	3,657	3,917	4,117	4,117
Shortfall without Aliso Canyon	-510	-250	-50	-231

These shortfalls on a 1-in-10-year demand day would require curtailments of additional noncore customers even after EG goes to minimum generation.

Also Need to Preserve Storage Inventory for January – This May Require December Curtailments

- True even using some gas from Aliso
- Minimum inventory required to support possible peak day Aliso withdrawal in January of ~2 Bcfd
- SoCalGas cites 43.3 Bcf total storage inventory needed for peak day
- **All noncore** potentially at risk if inventory hits 43.3 Bcf
 - including refineries, large hospitals, manufacturing
- Inventory could drop to 43.3 Bcf before need for peak day protection passes on January 31

	SoCalGas	Joint Agencies
Average Temperature Demand	Early December	Late January
Cold Year Demand	November	Mid-December

New Mitigation Measures

- All the existing mitigation measures continue
- Suggest 8 new ones:
 - Delay LADWP's Transmission Upgrade Work until February
 - Use More Gas From Aliso Than Last Winter
 - More Conservation (Turn Thermostats Down and Deploy More Smart Thermostats)
 - Emergency Moratorium on New Gas Hookups in LA County
 - Shift EG Less but More Frequently to Preserve Inventory
 - Update Section 715 Report's Aliso Canyon Inventory Target for New Circumstances
 - Bring LNG to Otay Mesa if Cannot Acquire Pipeline Capacity
 - Monitor and Communicate Constantly, Including to Public

Comes Down to the Weather, Even With Mitigation Measures

- Natural gas service is threatened to noncore customers, including electric generators, this winter.
- This threat occurs even though there is more gas in storage than at this time last year.
- Caused by unprecedented pipeline outages (including October 1, 2017 Line 235 rupture) on the SoCalGas system.
- Any actions consumers take to reduce natural gas use in December will help preserve gas in storage for January (when 1-in-35 year extreme demand days remain possible).
- Assuming no additional gas system outages and that full supplies arrive at the pipeline receipt points, the need for curtailments depends entirely on the weather and by how much consumers can decrease gas demand to maintain inventory.

Next Steps

- Continue monitoring closely:
 - Weather (warm November already a big help)
 - storage inventory
 - pipeline outages
 - gas system mitigation success at Kramer & Otay Mesa
 - facility return dates
 - natural gas prices in Southern California
- Implement the additional mitigation measures