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**Aliso Canyon Winter Risk Assessment Technical Report  
2017-18 Supplement:**

**December Situational Update**

**Prepared by the Staff of the California Public Utilities Commission, the California Energy Commission, the California Independent System Operator, and the Los Angeles Department of Water and Power**

**December 14, 2017**

# Aliso Canyon Winter Risk Assessment Technical Report 2017-18 Supplement

## December Situational Update

One of the mitigation measures suggested in the November 28, 2017 Supplement to cover winter 2017-18 was to “Monitor and Communicate Constantly, Including to Public.” In that spirit Energy Commission staff has updated the gas balances with a December 1 storage inventory, as reported to the public on Southern California Gas Company’s (SoCalGas) *Envoy* web site. Staff also deleted November from the analysis. Staff anticipates posting additional updates as the winter continues.

A warm November allowed SoCalGas to fully serve most demand using receipts of pipeline gas. As a result it pulled no gas supply from inventory on a net basis for the month: the December 1 reported inventory for all four SoCalGas fields was 68.9 Billion Cubic Feet (Bcf), higher than November 1’s inventory of 67 Bcf.

The updated gas balances for normal temperature weather, presented in Table 1, show a December month-end inventory of 52 Bcf compared to 47 Bcf in the November 28 Technical Assessment. That warm weather also allows the normal temperature case to improve to 46 Bcf for January month-end inventory versus the 41 Bcf estimated previously.

The cold temperature case, presented in Table 2, now shows 42 Bcf at the end of December and 26 Bcf at the end of January. These compare to 32 Bcf and 15 Bcf, respectively in the November 28 Technical Assessment. SoCalGas is now also projecting (on its *Envoy* site) that Line 4000 might return to service by December 25, five days sooner than previously projected.

The winter peak day gas balance, presented in Table 3, is augmented in this update with a change to January demand and with two columns added. The November 28 Assessment showed December and January with the same peak day demand; this version replaces the January demand with forecast data for 2018 instead of ignoring the year change. (The difference between the two is small and probably within the range of “noise” given that the 2016 California Gas Report forecast is two years old so this change is made for transparency.) This change also corrects the formula adding Total Demand.

The November 28 Assessment also showed electric generation (EG) demand dropping on the winter peak day to the minimum levels calculated by the California ISO and the Los Angeles Department of Water and Power. Staff has added two new columns to show the results with EG instead at its full level. These columns allow one to see that on a winter peak day where core demand at its 1-in-35-year level with full demand by EG and the pipeline receipt situation and storage withdrawals shown, SoCalGas would have insufficient gas supply to serve all demand. The deficit is 314 MMcf per day in December (about 6 percent) and by 23 MMcfd in January. The January estimate assumes Line 4000 comes back to service. Any lower availability of receipts or withdrawals would make the calculated deficits larger, in each of the columns.

Nothing here changes the overall conclusions from the November 28 Technical Assessment. Assuming no additional gas system or electric transmission 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. That being said, the warm November means our cushion against curtailments has grown by a useful amount.

Table 1: Normal (Average Temperature) Winter Gas Balance by Month With Gas System Mitigation

SoCalGas Monthly Gas Balance NORMAL WEATHER		2018											
	2017	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>CGR Demand (MMcfd)</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
Core	1,490	1,428	1,386	1,148	1,004	751	692	630	608	628	714	1,072	1,483
Noncore including EG	1,153	1,158	1,140	1,033	1,049	1,063	1,089	1,362	1,408	1,526	1,270	1,100	1,136
Wholesale & International	518	505	510	419	401	358	377	374	374	392	391	422	521
Co. Use and LUAF	40	39	38	33	31	27	27	30	30	32	30	33	40
Subtotal Demand	3,201	3,130	3,074	2,633	2,485	2,199	2,185	2,396	2,420	2,578	2,405	2,627	3,180
Storage Injection (Other Three Fields)	0	0	0	0	100	135	100	50	100	120	200	0	0
Storage Injection (Aliso)	0	0	0	0	50	20	0	0	0	0	0	0	0
Storage Injection Total	0	0	0	0	150	155	100	50	100	120	200	0	0
<b>System Total Throughput</b>	<b>3,201</b>	<b>3,130</b>	<b>3,074</b>	<b>2,633</b>	<b>2,635</b>	<b>2,354</b>	<b>2,285</b>	<b>2,446</b>	<b>2,520</b>	<b>2,698</b>	<b>2,605</b>	<b>2,627</b>	<b>3,180</b>
<b>Supply (MMcfd)</b>													
California Line 85 Zone	60	60	60	60	60	60	60	60	60	60	60	60	60
Wheeler Ridge Zone	765	765	765	765	765	765	765	765	765	765	765	765	765
Blythe (Ehrenberg) into Southern Zone	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010
Otay Mesa into Southern Zone	200	200	200	0	0	0	0	0	0	0	0	0	0
Kramer Junction into Northern Zone	625	550	550	550	550	550	550	550	550	550	550	550	550
North Needles into Northern Zone	0	350	350	350	350	350	350	350	350	350	350	350	350
Topock into Northern Zone	0	0	0	0	0	0	0	0	0	0	0	540	540
Sub Total Pipeline Receipts	2,660	2,935	2,935	2,735	2,735	2,735	2,735	2,735	2,735	2,735	2,735	3,275	3,275
Storage Withdrawal (Other Three Fields)	500	195	139	0	0	0	0	0	0	0	0	280	220
Storage Withdrawal (Aliso)	41	0	0	0	0	0	0	0	0	0	0	0	225
<b>Total Supply</b>	<b>3,201</b>	<b>3,130</b>	<b>3,074</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>3,555</b>	<b>3,720</b>
<b>DELIVERABILITY BALANCE (MMcfd)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>102</b>	<b>100</b>	<b>381</b>	<b>450</b>	<b>289</b>	<b>215</b>	<b>37</b>	<b>130</b>	<b>928</b>	<b>540</b>
<b>Reserve Margin</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>4%</b>	<b>4%</b>	<b>16%</b>	<b>20%</b>	<b>12%</b>	<b>9%</b>	<b>1%</b>	<b>5%</b>	<b>35%</b>	<b>17%</b>
<b>OTF Month-End Storage Inventory (Bcf)</b>	<b>45.3</b>	<b>30</b>	<b>24</b>	<b>20</b>	<b>20</b>	<b>23</b>	<b>27</b>	<b>30</b>	<b>32</b>	<b>35</b>	<b>38</b>	<b>44</b>	<b>36</b>
<b>Aliso Month-End Storage Inventory (Bcf)</b>	<b>23.6</b>	<b>22</b>	<b>22</b>	<b>22</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>17</b>
<b>Total Storage Inventory</b>	<b>68.9</b>	<b>52</b>	<b>46</b>	<b>42</b>	<b>47</b>	<b>51</b>	<b>54</b>	<b>56</b>	<b>59</b>	<b>63</b>	<b>69</b>	<b>61</b>	<b>47</b>

Table 2: Cold Winter Gas Balance by Month with Gas System Mitigation

SoCalGas Monthly Gas Balance Cold Yr WEATHER	2017	2018											
<b>CGR Demand (MMcfd)</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
Core	1,704	1,627	1,566	1,281	1,100	787	712	637	610	633	742	1,183	1,696
Noncore including EG	1,212	1,226	1,199	1,075	1,109	1,122	1,201	1,473	1,492	1,616	1,325	1,150	1,188
Wholesale & International	566	558	557	459	435	389	388	384	382	398	399	453	577
Co. Use and LUAF	44	43	42	35	33	29	29	31	31	33	31	35	44
Subtotal Demand	3,526	3,454	3,364	2,850	2,677	2,327	2,330	2,525	2,515	2,680	2,497	2,821	3,505
Storage Injection (Other Three Fields)	0	0	0	0	0	108	305	110	120	45	238	0	0
Storage Injection (Aliso)	0	0	0	0	50	300	100	100	80	10	0	0	0
Storage Injection Total	0	0	0	0	50	408	405	210	200	55	238	0	0
<b>System Total Throughput</b>	<b>3,526</b>	<b>3,454</b>	<b>3,364</b>	<b>2,850</b>	<b>2,727</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,715</b>	<b>2,735</b>	<b>2,735</b>	<b>2,821</b>	<b>3,505</b>
<b>Supply (MMcfd)</b>													
California Line 85 Zone	60	60	60	60	60	60	60	60	60	60	60	60	60
Wheeler Ridge Zone	765	765	765	765	765	765	765	765	765	765	765	765	765
Blythe (Ehrenberg) into Southern Zone	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010
Otay Mesa into Southern Zone	200	200	200	115									
Kramer Junction into Northern Zone	625	550	550	550	550	550	550	550	550	550	550	550	550
North Needles into Northern Zone	0	350	350	350	350	350	350	350	350	350	350	350	350
Topock into Northern Zone	0	0	0	0	0	0	0	0	0	0	0	540	540
Sub Total Pipeline Receipts	2,660	2,935	2,935	2,850	2,735	2,735	2,735	2,735	2,735	2,735	2,735	3,275	3,275
Storage Withdrawal (Other Three Fields)	500	500	179	0	0	0	0	0	0	0	0	86	500
Storage Withdrawal (Aliso)	366	19	250	0	0	0	0	0	0	0	0	0	270
<b>Total Supply</b>	<b>3,526</b>	<b>3,454</b>	<b>3,364</b>	<b>2,850</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>2,735</b>	<b>3,361</b>	<b>4,045</b>
<b>DELIVERABILITY BALANCE (MMcfd)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>540</b>	<b>540</b>
<b>Reserve Margin</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>	<b>19%</b>	<b>15%</b>
<b>OTF Month-End Storage Inventory (Bcf)</b>	45.3	30	9	9	9	13	22	25	29	30	38	35	27
<b>Aliso Month-End Storage Inventory (Bcf)</b>	23.6	12	5	5	6	15	18	22	24	24	24	24	16
<b>Total Storage Inventory</b>	68.9	42	14	14	15	28	40	47	53	55	62	59	43

Table 3: Winter Peak Day (1-in-35 Core Demand) Balance with Gas System Mitigation

<b>SoCalGas Peak Day Gas Balance</b>	<i>EG at MinGen</i>		<i>Full EG Load</i>	
	<b>Dec</b>	<b>Jan</b>	<b>Dec</b>	<b>Jan</b>
<b>Demand (MMcfd) -- per CGR p. 93</b>				
Core	2,944	2,931	2,944	2,931
Noncore Non-EG	1,019	1,019	1,019	1,019
Electric Generation (EG)	<b>112</b>	<b>112</b>	<b>1,051</b>	<b>1,048</b>
<b>Total Demand</b>	<b>4,075</b>	<b>4,062</b>	<b>5,014</b>	<b>4,998</b>
<b>Supply (MMcfd)</b>				
California Production	60	60	60	60
Wheeler Ridge Zone	765	765	765	765
Blythe (Ehrenberg) into Southern Zone	1,010	1,010	1,010	1,010
Otay Mesa into Southern Zone	200	200	200	200
Kramer Junction into Northern Zone	625	550	625	550
North Needles into Northern Zone	0	350	0	350
Topock into Northern Zone	0	0	0	0
<b>Total Flowing from Receipt Points</b>	<b>2,660</b>	<b>2,935</b>	<b>2,660</b>	<b>2,935</b>
Storage Withdrawal				
Three Others (PdR 300 + Goleta 340 + HR 1000)	1,640	1,640	1,640	1,640
Aliso Canyon	400	400	400	400
Total Gas from Storage	2,040	2,040	2,040	2,040
<b>Total Supply</b>	<b>4,700</b>	<b>4,975</b>	<b>4,700</b>	<b>4,975</b>
<b>DELIVERABILITY BALANCE (MMcfd)</b>	<b>625</b>	<b>913</b>	<b>(314)</b>	<b>(23)</b>
<b>Reserve Margin %</b>	<b>5%</b>	<b>22%</b>	<b>-6%</b>	<b>0%</b>