



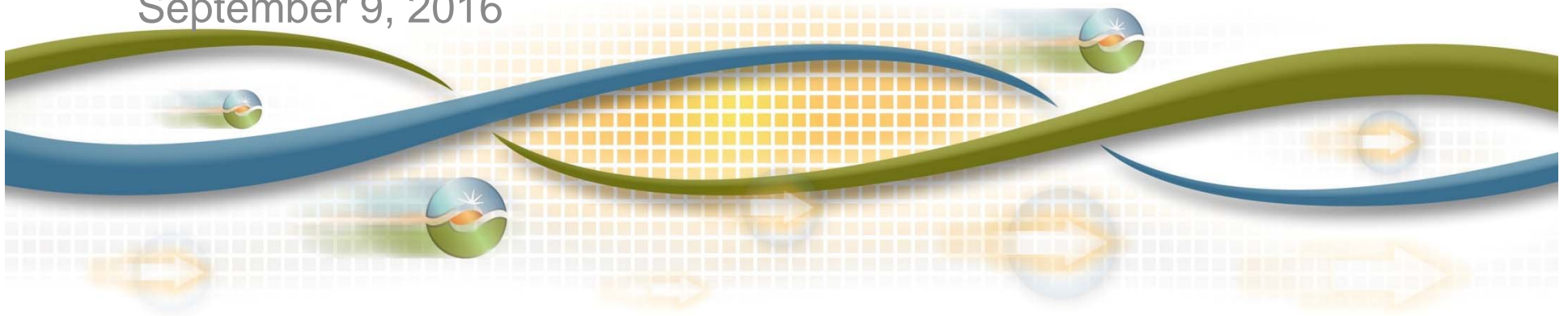
California ISO

# Aliso Canyon Gas-Electric Coordination Phase 2 – Issue Discussion and Straw Proposal

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Market & Infrastructure Policy

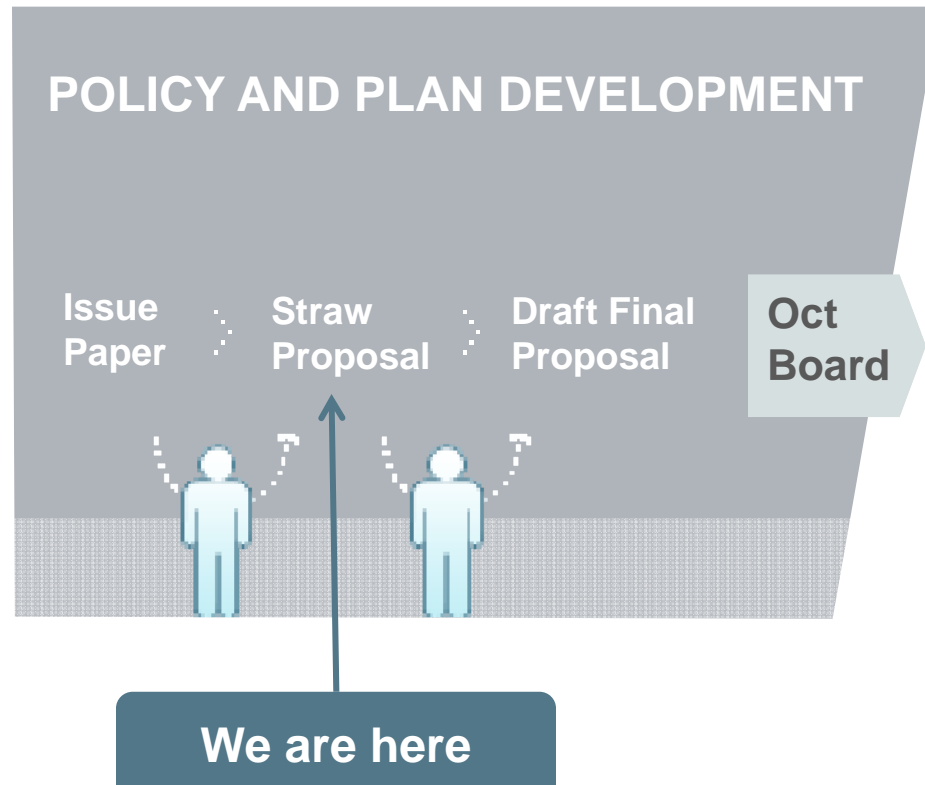
September 9, 2016




# Agenda

Time	Topic	Presenter
1:00 – 1:10	Introduction	Kim Perez
1:10 – 1:50	Ongoing Gas-Electric Coordination	Shawn Grant & Cathleen Colbert
1:50 – 2:10	Aliso canyon winter action plan and market design implications	Cathleen Colbert
2:10 – 2:45	ISO Straw proposal for temporary provisions past November 30 <sup>th</sup>	Cathleen Colbert
2:45 – 2:55	DMM Recommendations	Keith Collins
2:55 – 3:00	Next Steps	Kim Perez

# ISO Policy Initiative Stakeholder Process



# Plan for stakeholder engagement



Milestone	Date
Issue and Straw Proposal Posted	9/6/2016
Stakeholder Call	9/9/2016
Stakeholder Written Comments Due	9/14/2016
FERC Technical Conference	9/16/2016
Market Surveillance Meeting discussion item	9/19/2016
Draft Final Proposal and Draft Tariff Language Posted	9/21/2016
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## Aliso Canyon Gas-Electric Coordination

- ISO participating in inter-agency task force to assess reliability risks due to limited operations of Aliso Canyon
- Beginning Summer 2016, ISO anticipates the limited operability of Aliso Canyon to affect electric operations.
- Expedited process to address Summer risks (Phase 1)
  - The ISO designed 11 measures
  - FERC approved with November 30<sup>th</sup> sunset date
- Expedited process to address Winter risks (Phase 2) will propose to retire or extend measures from Phase 1



# ONGOING GAS-ELECTRIC COORDINATION

## Coordination Practices Supporting Reliability

- Outage Planning – bi-weekly calls with planners
- Under normal operations –
  - Provide D+2 and D+1 gas burn schedules
  - Hold daily calls on D+2 and D+1 gas burn schedules
  - Notify if RT burns are higher than gas burn schedules
- Under peak day operations –
  - Issue flex alert or restricted maintenance operations
  - Hold peak day reliability call including gas companies, Peak RC, PTOs, and neighboring BAAs
  - Hold peak day market calls (all market participants)

## Gas-Electric Operations Coordination under Gas Limitation Conditions in SoCalGas' area

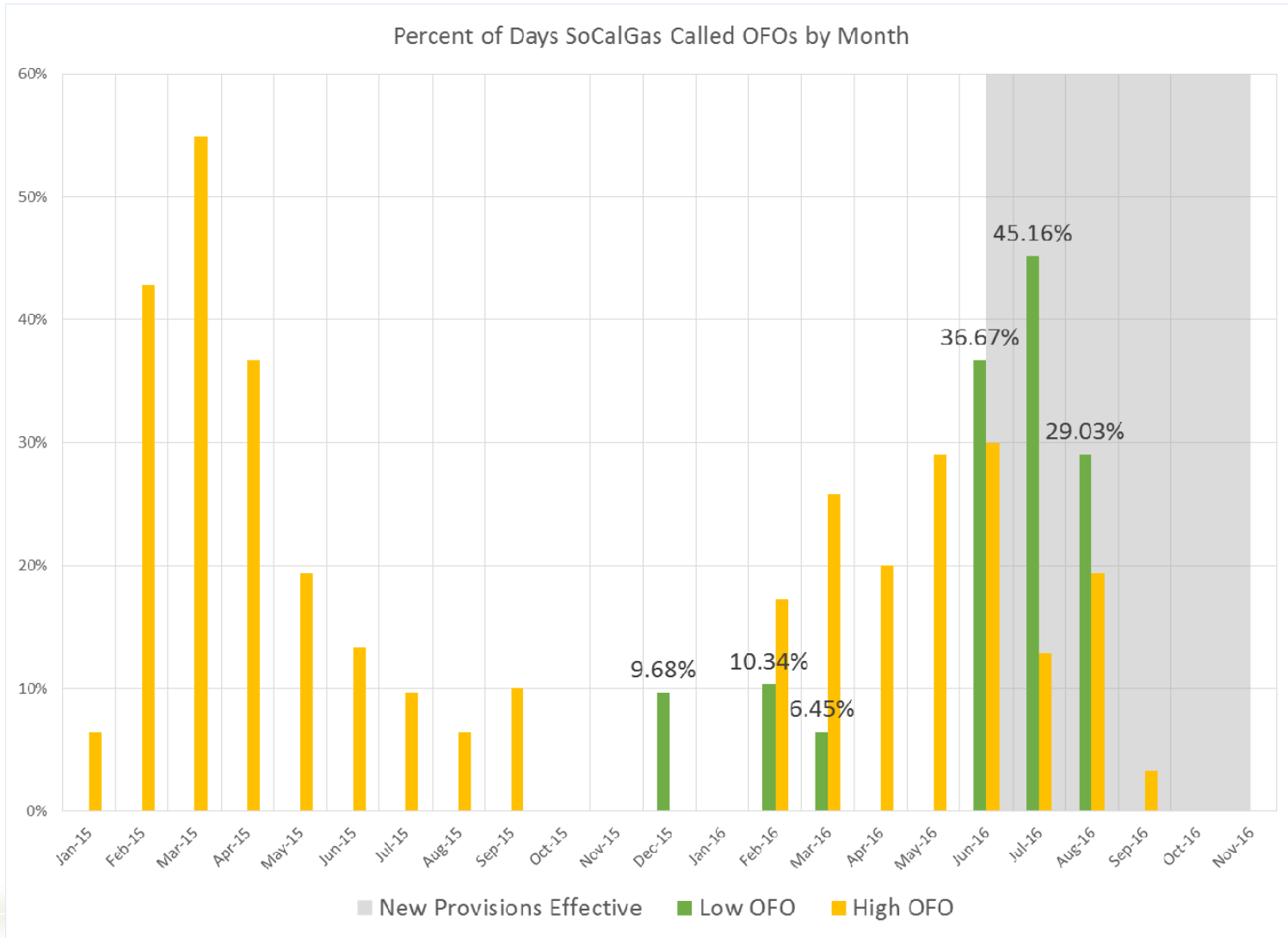
- Operations follows its SoCalGas Service Area Limitations or Outages Procedure 4120C, <http://www.caiso.com/Documents/4120C.pdf>.
- SoCalGas notifies ISO of curtailment watch → ISO can manage system using gas constraints, adjusting internal transfer capability, or exceptional dispatches
- SoCalGas notifies ISO of curtailment (pro-rata) → ISO can manage system using gas curtailment tool or exceptional dispatches
- ISO will issue market notifications when action is taken.



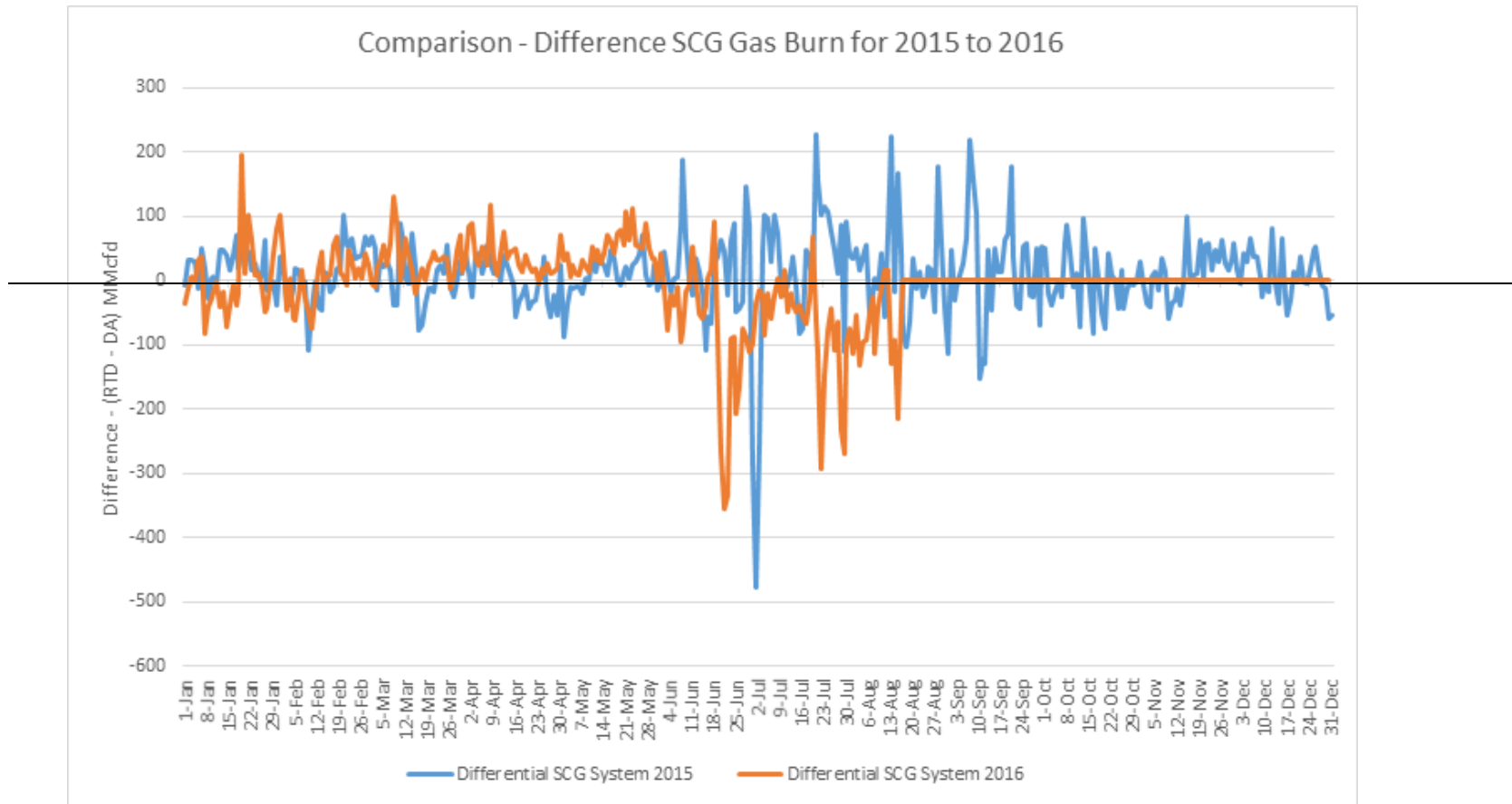
## Review ISO Summer Operations

- Continued daily coordination between SoCalGas, CAISO and SCs have allowed all parties to work together to successfully manage gas and electric operations during the past two heat waves, for example:
- SoCalGas' tighter balancing rules and SCs' gas scheduling practices have likely helped eliminate supply and demand mismatches, support gas operations, and fuel plants for power production
- Temporary provisions have not been needed yet due to
  - Communication between SoCalGas and CAISO
  - Milder than expected summer, however summer is not over and SCA peaks in September

# SoCalGas frequent use of OFOs and SCs responding efforts to sufficiently schedule gas helped mitigate risk



# Good coordination, advanced electric planning, and more robust bidding flexibility helped mitigate risks



Row Labels	Max Under scheduled 2015	Max Under scheduled 2016
June	188	93
July	226	69
August	225	18

## ISO commits to continue to look for ongoing opportunities to enhance coordination

- ISO proposes to provide real-time gas burn information to gas companies. What real-time data is best?
  - Advisory gas burn information from STUC run
  - Binding real-time gas burn schedules from FMM/5MM
  - Including exceptional dispatch amounts
- ISO proposes to provide more than one day's worth of gas burn data at a time to encompass gas operating day
- ISO will evaluate if it should provide the gas burn values to scheduling coordinators for their units as well



# **ALISO CANYON WINTER ACTION PLAN AND MARKET DESIGN IMPLICATIONS**

## Winter Key Finding: Gas reliability still threatened but electricity challenges are fewer than in summer

- Risk of gas imbalances from non-core electric generators not the primary driver of Winter risks
- Demand flips from non-core generators to core customers → core uses 60% of gas supply
- Non-core generators would be first curtailed when on-system gas is needed to meet core demand
- Electricity demand lower in winter; more flexibility to shift generation to resources outside the SoCalGas area

# Winter Key Finding: Risk system capacity is not sufficient to source gas to meet all customers needs

- Winter peak day in gas balance (1-in-10 for noncore)

Customer	2016 Forecasted Peak Demand	Percent of Peak Demand
Core	3.050 Bcf	60
Electric Generation	1.031 Bcf <sup>17</sup>	20
Noncore, not electric generation <sup>18</sup>	0.996 Bcf	20
Winter Total	5.077 Bcf	100

Source: CPUC Energy Division *Preliminary Staff Analysis*, February 16, 2016; initially taken from 2014 *California Gas Report*, p. 90

- Risk of capacity limitations under 1-in-10 day conditions with transmission line outages and <84% utilization of receipt point capacity → actual expectations of capacity below forecast

Supply/Demand	System Design (Bcf/day)	Actual Experience (Bcf/day)
Total Capacity (Pipeline & Storage)	5.5	4.0
Peak Winter Gas Demand	-5.0	-5.0
<b>RESERVE MARGIN</b>	0.5	<b>(1.0)</b>





# Winter Action Plan proposed 10 new mitigation measures – no addtl. impact to CAISO market design

Aliso Canyon Phase 1 temporary provisions included gas burn operating ceiling (i.e. total max gas burn constraint)

Category	Mitigation Measure
Gas-targeted Programs to Further Reduce Usage	Develop and Deploy Gas Demand Response Program
	Develop and Deploy Gas Cold Weather Messaging
	Extend Tighter Noncore Balancing Rules into Winter
Winter Operations Changes	Add Core Balancing Rules
	Create Gas Burn Operating Ceiling for Electric Generation
Reduce Gas Maintenance Downtime	Submit Reports Describing Rapid Progress on Restoring Pipeline Service
Increase Supply	Ask for more California Natural Gas Production
	Prepare to Buy LNG
Use of Gas from Aliso Canyon	Update the Aliso Canyon gas Withdrawal Protocol and Gas Allocation Process
Refineries	Monitor Natural Gas Use at Refineries and Gasoline Prices



## Proposed Phase 2 Scope and Focus

- Since Phase 1 market design efforts contemplated the risk of **capacity limitations** (winter risk identified) no additional scope items are needed for Phase 2.
- Since winter assessment did identify risk of capacity shortage with the limited operability of Aliso Canyon, ISO will evaluate extending temporary provisions
- ISO proposes Phase 2 focus on:
  - Evaluate which temporary provisions are needed to continue successfully managing reliability
  - Evaluate what refinements are needed
  - Provide greater transparency still lacking, if possible



# **ISO STRAW PROPOSAL FOR TEMPORARY PROVISIONS PAST NOVEMBER 30<sup>TH</sup>**

## Proposal for temporary operational tools designed to improve ISO's ability to manage operations

Ability to reserve internal transfer capability into Southern California

**Retire**

- Mitigation measure – Can reduce CRR amounts in monthly auction

Ability to enforce gas constraints for either capacity or imbalance limitations

**Extend,  
refine**

- Mitigation measure – Can override its assessment of competitive paths
- Mitigation measure – Can suspend virtual bidding for market inefficiencies

## The ISO proposes to retire the authority to reserve internal transfer capability as its not needed

- After Phase 1, Peak RC modified its system operating limit (SOL) methodology to allow path 26 limit to exceed its rating under emergency conditions so ISO does not need functionality to derate limit in day-ahead.

- WECC Path Rating
- **System Operating Limit**

Operations will not shed load pre-contingency due to conservative WECC path rating if RT tool shows no reliability issue

- To ensure it can serve load, ISO Operations can now utilize real-time contingency analysis to increase transfer capability while ensuring ISO grid reliability
- ISO will retire authority to adjust CRR amounts

ISO proposes to extend gas constraints for either imbalance or capacity limitations. Should there be any adjustments made to the gas constraint design?

- ISO proposes to extend authority to enforce gas constraint with the adjustment that ISO does not intend to extend the use of the min gas burn limit
- Re-evaluate use and design of gas constraints including:
  - What are the factors used in deciding to enforce?
  - Re-evaluate shaping daily limits using hourly percentage share of load forecast (distribution factor)
  - Re-evaluate penalty factor when constraint is relaxed
  - Re-evaluate constraint limitation formulas using Summers' lessons learned

## Proposal for temporary market changes to improve suppliers' ability to manage assets

Publish 2 day-ahead (TD-2) RUC schedules to Scheduling Coordinators

**Extend**

Improve DAM gas price index using an approximation of next day gas index

**Extend**

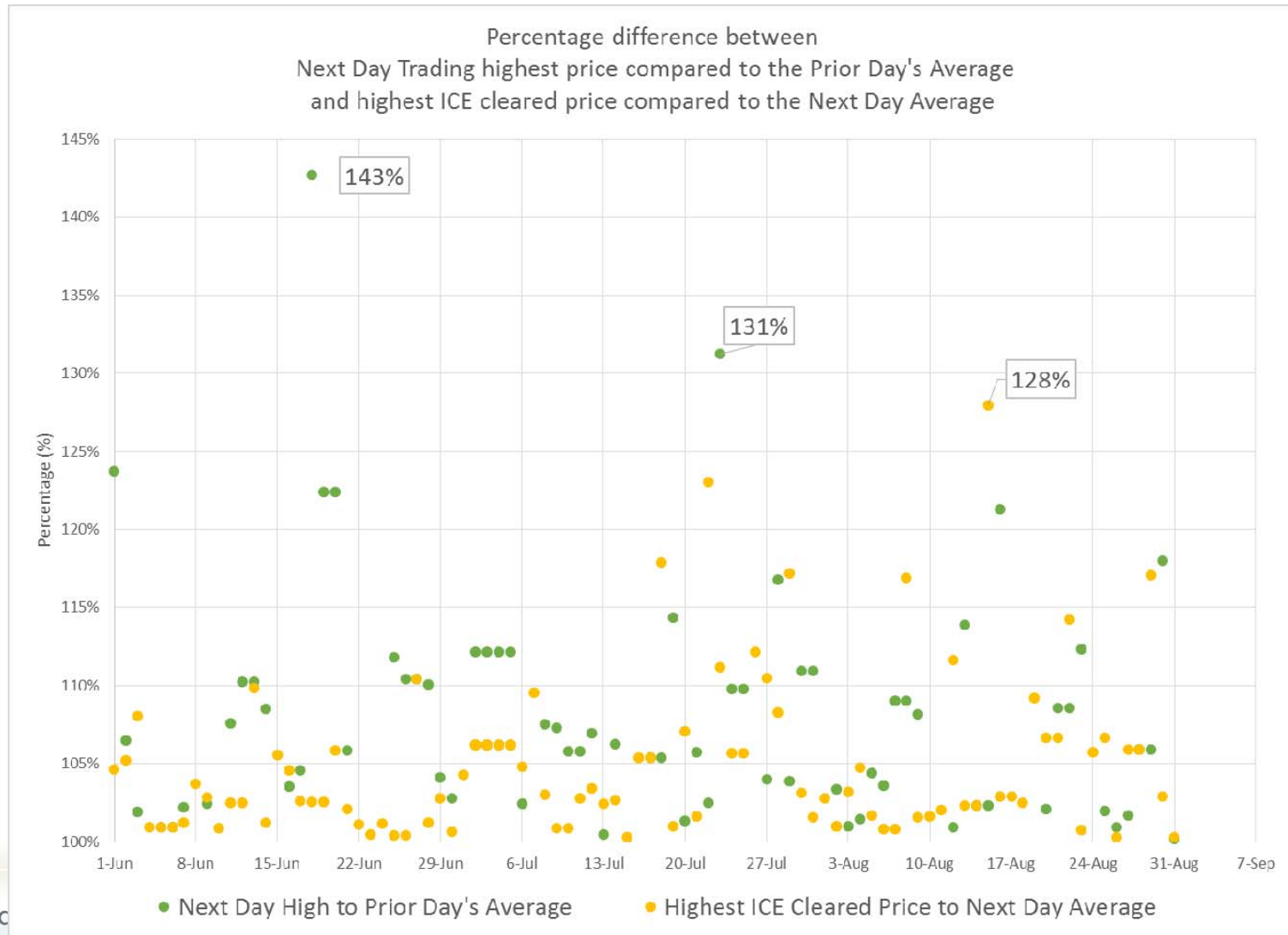
Adjust the RTM gas price index to include a scalar on the next day gas index

**Extend**

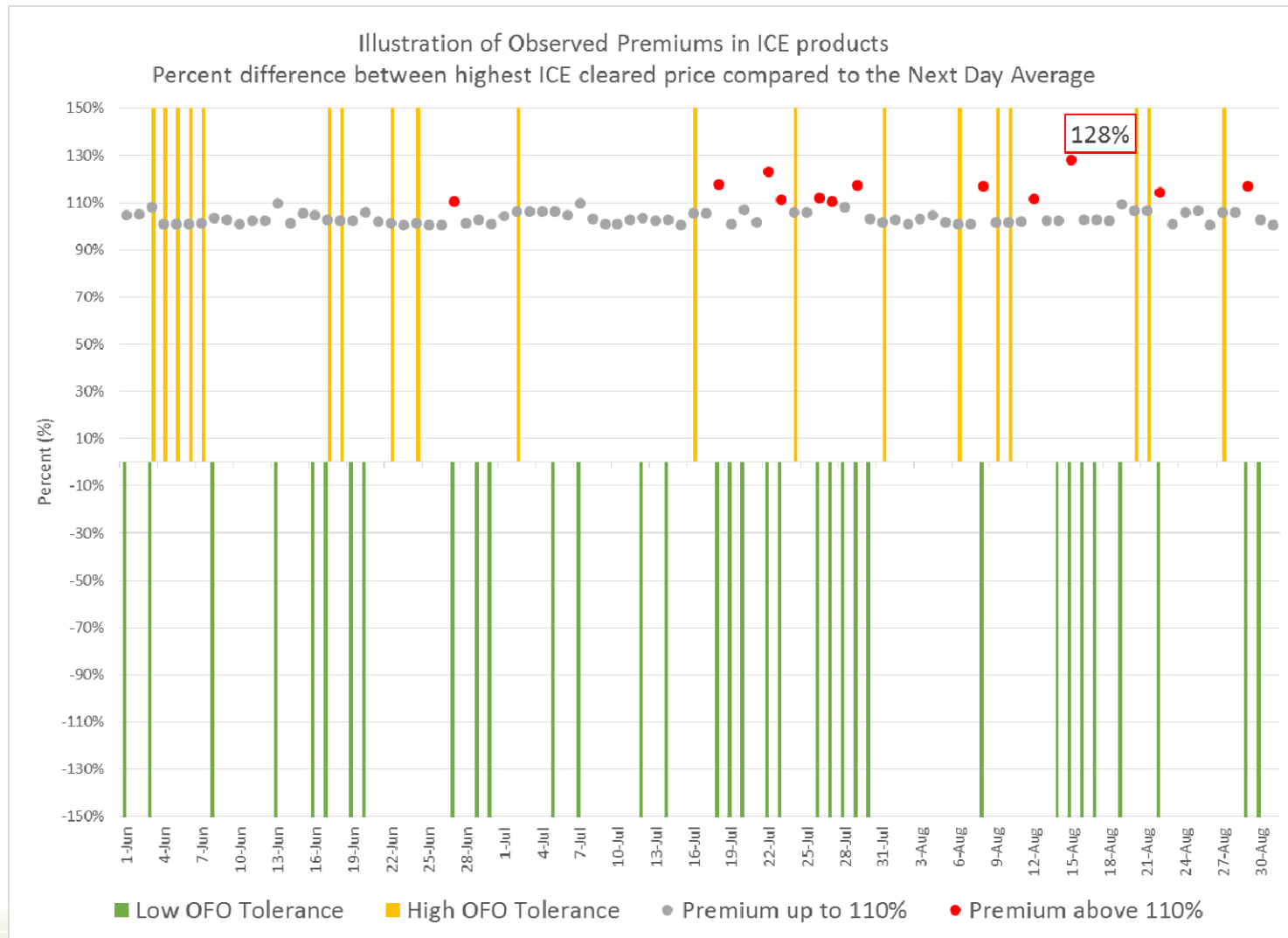
Include in after-the-fact cost recovery filing right opportunity to seek energy costs incurred above mitigated price

**Extend**


# ISO benefits evaluation provided by improved DAM GPI and scaled RTM GPI shows improved DAM GPI is still needed and scalar levels used in RTM GPI are sufficient



# When OFOs called, ISO observed highest price across ICE products less than 130% of ICE's next day index







ISO proposes to extend all temporary market changes. Should there be any adjustments made to the temporary market changes?

- Evaluate whether gas burn data reported to a gas company should be given to SCs or provided in BPMs
- Commitment to continue evaluating scalar levels based on whether they do not
  - Result in units dispatched to address system needs
  - Account for differences between DA & RT gas prices
  - Improve ability to manage usage within gas rules.
- ISO proposes to clarify the after-the-fact cost recovery is temporarily extended to any default energy bid type

## ISO filed its Bidding Rules Enhancements board-approved provisions on Aug 19, 2016

Increased commitment cost real-time bidding flexibility

**Filed, pending approval**

Do not insert RTM bids for units not required to participate or scheduled in DA

**Filed, pending approval**

After-the-fact cost recovery filing right at FERC for commitment costs

**Filed, pending approval**

ISO will consider the best approach to pursue to ensure that these provisions will stay in effect as it waits for FERC approval for permanent tariff revisions.



# DMM RECOMMENDATIONS

## DMM recommendations on extending measures

- Permanently extend the measure to improve the DAM gas price index using an approximation of next day gas index published morning of day-ahead market
- Extend the scalar adders for both incremental energy and commitment costs but be prepared to lower both
- Extend after-the-fact recovery of gas costs, but provide more clarification and detail to improve usefulness


## DMM recommendations to add temporary provisions to Phase 2 scope

- Clarify that Aliso Canyon related exceptional dispatches for incremental energy are subject to mitigation
- Design mitigation of decremental exceptional dispatches related to Aliso Canyon



# NEXT STEPS

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# REFERENCE MATERIALS – BACKGROUND



# Background – Aliso Canyon Impact

Oct. 2015, discovered Aliso Canyon leak

Jan. 2016, Gov. Brown issued proclamation of state of emergency

- Continue prohibition on injecting gas into the storage facility
- Direct CPUC, CEC an ISO to coordinate to ensure continued reliability

Jan. 2016, multi-agency technical working group looking at short-term reliability risks associated with summer and peak winter operations due to limited operations of Aliso Canyon facility

Feb. 2016, State regulators confirmed gas leak sealed but continued moratorium on new injections until Division of Oil, Gas, and Geothermal Resources complete inspections

Mar. 2016, SoCalGas and SDG&E filed motion to establish interim daily balancing requirements effective May 1, 2016 (5% tolerance band / 150% of gas daily penalty)

## Background – FERC Order 809

Nomination Cycle	Nomination Deadline (PST)	Notification of Nominate (PST)	Nomination Effective (PST)	Bumping of interruptible transportation
Timely	9:30 a.m.	2:30 p.m.	7:00 a.m. Next Day	N/A
	11:00 a.m.	3:00 p.m.		
Evening	4:00 p.m.	8:00 p.m.	7:00 a.m. Next Day	Yes
		7:00 p.m.		Yes
Intra-day 1	8:00 a.m.	12:00 p.m.	3:00 p.m. Current Day	Yes
		11:00 a.m.	12:00 p.m. effective	Yes
Intra-day 2	3:00 p.m.	7:00 p.m.	7:00 p.m. Current Day	No
	12:30 p.m.	3:30 p.m.	4:00 p.m. effective	Yes
Intra-day 3	5:00 p.m.	8:00 p.m.	8:00 p.m. effective	No

# Background - Alignment natural gas & electric markets

