



California Energy Commission

San Bruno Reliability Implications and Natural Gas Environmental Issues

Staff Workshop
Hearing Room A

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Staff Following the Proceedings

- NTSB Hearings/CPUC OIR
 - may result in new regs in how MAOP determined and strength testing requirement for HCAs
- PG&E records search indicates 151 miles of transmission pipe to test or replace in 2011 and another 435 miles to further evaluate
- Provided briefing for CAISO on gas transmission system and power plants to help them consider potential outages



ESAD Considering What It Can Do

- WGTM captures backbone transmission
 - model scenario in which cut capacity by % to reflect reduced operating pressure (annual and maybe daily)
- Scoping potential application of more detailed gas flow modeling
 - support to implement PG&E test/replace plan
- Preliminary calculations on cents per therm impact to average transportation rate:
\$1B @ 10% over 20 years = \$0.18/mcf or 8%



Siting Division Looking at Risk from Interconnecting New Plants

- The gas transmission system is subject to DOT and CPUC jurisdiction; but,
- The Energy Commission must consider potential localized CEQA impacts from the gas interconnection of the proposed power plants.
- The areas of potential impacts and risk are expected to be along the gas transmission pipeline in the proximity of the gas interconnection point
 - e.g., 1,000 feet upstream and downstream, or depending on proximity of High Consequence Areas



Recognizing Environmental Issues

- Hydraulic Fracturing concerns
 - fear of fracturing liquids contaminating groundwater, water use, water disposal, more truck trips (noise, dust and diesel emissions), benzene emissions and seismic activity
 - fines levied in PA and TX
 - EPA study may expand
 - High Btu-content liquids, more workovers and CH₄ emitted in flowback water means higher GHG
- Macondo rules delay OCS expansion



Additional Efforts at EPA

- ANPR to reduce PCBs authorized in pipelines
 - standard drops from 50 ppm to 1 ppm
- NSPS and Transport rules plus potential rules on coal ash and Hg and NO_x/SO_x monitoring
 - push changes in electricity resource portfolios
- GHG emissions reporting amended to cover
 - LDCs and upstream transportation, storage and production
 - Doubles the number of covered entities so that 2800 will now report CH₄, CO₂, and N₂O; goal is to reduce leaks and venting
 - first reports covering calendar 2011 due March 31, 2012



EPA Finds 1996 Emissions and Sinks Study Understated F&P GHG

Table 2: Comparison of Process Emissions from each Segment of the Natural Gas and Petroleum Industries

| Segment Name | U.S. GHG Inventory ¹ Estimate for Year 2006 (MMTCO ₂ e) | Revised Estimate for Year 2006 (MMTCO ₂ e) |
|--------------------------|---|---|
| Production ² | 90.2 | 198.0 |
| Processing | 35.9 | 39.5 |
| Transmission and Storage | 48.4 | 52.6 |
| Distribution | 27.3 | 27.3 |

1. U.S. EPA (2008) *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006*.

2. *Production includes equipment leaks and vented emissions from both the natural gas and petroleum sectors' onshore and offshore facilities.*

EPA says 2006 update understated because tight gas wells not broken out.



Additional Notes

- Staff's modeling doesn't assume GHG regulation US-wide or adjust for CA AB 32 program adding gas in 2015
 - No adjustment to demand
 - No inclusion of price for allowances in cost of gas or transportation rates
- Growing recognition that by 2050, gas role must be further reduced in order to achieve GHG targets