



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 NOx/SOx 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