

Natural Gas Technology – Investments in a Healthy U.S. Energy Future

Concurrent Panel Discussion Session

Panel C: Industry, Business - How Efficient, Safe, and Secure

Questions and Answers

Q (by Charlie Fritts – Moderator)

The Energy Bill to regulate trading was defeated. In light of the Enron admissions to price manipulating, what do you think should happen for the future?

A (Jason Makansi – Pearl Street)

The California government's attempt to take control was not right; it was a knee-jerk reaction. It was not right for Enron to manipulate prices, but it is also not right for government to try to "fix" the process.

Q (by Dale Schmidt – SCNG/NETL, from the audience)

Can you elaborate on your slide in which you recommended integration of people?

A (Jason Makansi – Pearl Street)

Let me provide some examples. Process optimization software, such as used for NOx control in power generation plants, is used for only one purpose and is not applied for other potential applications as well. Personnel should be involved in using tools to their fullest capability. They should review how things are done, and not be afraid to change how things are done. An Australian power plant was cited as operating with only 2 personnel on-site. This was compared against a hydropower installation that was not even operating, yet was staffed with 14 workers.

Q (by Charlie Fritts – Moderator)

In a typical office building, the builder sells the building and is not concerned with utility costs. How do we change this?

A (Volker Hartkopf – CMU)

Incentivize the builder. The cost of an energy-efficient building can be the same as a conventional building. In addition, it provides more comfort for the occupants and is therefore easier to find occupants.

Q (Doug Gyorke – SCNG/NETL, from the audience)

You advocate photovoltaics. Is this practical in a region such as Pittsburgh?

A (Volker Hartkopf – CMU)

A photovoltaic system has a 20-year payback period. It works in Stockholm. Pittsburgh is at the same latitude as Naples, Italy. I know no reason why it wouldn't work in Pittsburgh.

Q (Mike Chaisson – Honeywell)

Who conducted the public education to mitigate public resistance to LNG terminals (in the late 1970's and early 1980's)? How much was spent on public education?

A (Doug Quillen – ChevronTexaco)

The project sponsors undertook the public education. The terminals were built by project sponsors El Paso, Columbia Gas, Distrigas and Panhandle Trunkline to import LNG from Algeria. Each tanker cost \$250 million and the price was escalating towards \$300 million. For the Bonny LNG project that I worked on, the plant cost was estimated at \$7 billion for 6 process trains. I don't have an estimate of the cost of public education.

Q (from the audience)

There seems to be pressure to move receiving terminals offshore. What is the potential for that?

A (Doug Quillen – ChevronTexaco)

The reason for moving terminals offshore is that they are no longer in anyone's back yard (NIMBY) and the permitting should be easier with the FERC, Coast Guard, and DOE. The terminals will be built offshore in 40 feet of water.

Q (Bob Stokes – GTI)

Enron had a project underway in the Bahamas. What is the fate of that?

A (Doug Quillen – ChevronTexaco)

Enron had a receiving terminal in progress in the Bahamas. Application was made to FERC to bring the gas into Southern Florida to connect with Florida Gas Transmission, of which Enron owns half. Those assets are for sale as part of their liquidation of assets.

Q (Milton Heath – Heath Consultants)

How many LNG terminals exist worldwide?

A (Doug Quillen – ChevronTexaco)

There are 13 liquefaction plants in 11 countries. There are about 27 LNG terminals worldwide, but don't hold me to that as an exact number.

Q (from the audience)

What is the net balance of LNG trade in the U.S. - import or export? Will this change in the future?

A (Doug Quillen – ChevronTexaco)

The only export facility is Kenai, Alaska, which ships about 1.1 million tonnes to Japan. The plant has been in operation for more than 30 years and runs without any problems. This field will eventually run out of gas and shut down, probably late in the decade. The U.S. will likely continue to be a net importer after that. LNG is a long-term commitment business. Sales are generally made on a long-term basis. The LNG that has been entering the U.S. in the last couple of years is spot sales from plants that have excess capacity as a result of sales buildup periods. That LNG has already been sold before it's put on the ship in Qatar, Oman, Australia, or wherever.

Q (Gary Dixon – GTI)

You mentioned two types of tanker ships. Is there a safety advantage of one type of ship over the other?

A (Doug Quillen – ChevronTexaco)

We have the Moss system, which are the round balls, and the membrane system, which is like the Phillips Tanker that you just saw. Because of the way the liquid sloshes around during transport, the Moss tankers can accept partial load. In the membrane tankers, although manufacturers say they can accept partial load, that is not practiced. Special baffles are needed in the tanks to prevent sloshing, but that is not a problem. There is no difference between tanker types with regard to safety. The Moss superstructure is bigger, has a little more displacement, and they cost a little more, but there is no difference in safety. They are both safe.

Q (Volker Hartkopf – CMU)

On your Risk and Vulnerability Assessment slide, there could be a new class of activities titled “Pre-Protection” that is not shown.

A (Alex Alvarez – DOE)

Yes, that’s true. However, DOE’s Energy Efficiency office is taking the lead on these “pre-Protection” questions, which is beyond the scope of our office. We aren’t looking at better buildings, but at protecting existing energy infrastructure.

Q (Mike McCall – Conversion Gas Imports)

I have a new technology that would improve energy security by injecting methane in salt domes, providing improved deliverability. However, there are risks associated with new technology. Does your office have a method for adopting new technology?

A (Alex Alvarez – DOE)

Yes, Abbie Layne of NETL is a focal point.

Q (Jason Makansi– Pearl Street)

You stated that you have reviewed states’ security plans. Can you cite one state that has a good security plan?

A (Alex Alvarez - DOE)

Louisiana is a model - a state that also approaches the question as a regional one, and cooperates with its neighbors.

Q (by Charlie Fritts – Moderator)

How do we rate our readiness to terrorist action?

A (Alex Alvarez - DOE)

An analysis has been conducted, and the consensus was that the natural gas sector was the most secure. However, the panel did not consider interdependencies of the oil, gas, and electricity infrastructure.