EXHIBIT H

State of California **Public Utilities Commission**
San Francisco

M E M O R A N D U M

Date : December 12, 2006

To : President Peevey

From : Richard A. Myers, Energy Division
Harvey Y. Morris, Legal Division

Subject : California's Need for LNG Supplies

As you requested, this memorandum provides a summary of why California needs liquefied natural gas (LNG) supplies in its future and why LNG terminals should not be sited onshore in or near densely populated areas.

I. LNG Supplies Should Be a Component of California's Natural Gas Portfolio

On average, California requires a little more than 6000 million cubic feet per day (MMcfd) of natural gas and obtains about 85-90% of its natural gas supplies from outside of California. These out-of-state supplies are delivered by interstate pipelines from natural gas producing basins in the southwestern and Rocky Mountain regions of the U.S. and in western Canada. Only the remaining 10-15% is obtained from California production, which production has been overall declining.

It is prudent for California to have access to a diverse portfolio of natural gas supplies to assure adequacy of supplies to the State and to have ample access to the lowest cost supplies of natural gas as market conditions change. The California Public Utilities Commission (CPUC) has become especially concerned in recent years about the adequacy of natural gas supplies to the State, and the increasing price of natural gas. Our concerns are based on several developments that we've observed in the natural gas market over the past few years (particularly since about 2002), and that may well continue in the future. These developments include:

- natural gas prices that are about three to four times the prices in 2002,
- decreasing production rates from natural gas wells in North America,

- decreasing imports of natural gas from Canada, the United States' main source of natural gas imports, and a big part of California's portfolio,
- future increases in national gas demand, partly due to increasing natural gas demand for electric generation,
- the realistic possibility that a portion of Rocky Mountain production, another important part of California's supplies, will be diverted to Midwestern and eastern markets, and
- potential changes in the southwest and northwest interstate pipeline markets.

Increases in the price of natural gas, not just in California but across the U.S., have been occurring due to a variety of factors. Some of the primary reasons include the increased tension between national supply and demand, the price of oil, and the increased cost of drilling. Prices have more than tripled between 2002 and now, and the prices have also become much more volatile. It is important to keep in mind that, because the natural gas market is strongly integrated and California heavily depends on out-of-state supplies, trends in market prices that California consumers pay are heavily determined by overall North American market developments, including increased demand in the other states, Canada and Mexico. In fact, in the future, natural gas prices are expected to be increasingly influenced by international developments.

The CPUC believes that LNG should be a component of California's natural gas supply portfolio. As part of the State's Energy Action Plan (EAP), the CPUC and the California Energy Commission (CEC) are placing considerable emphasis on trying to meet a substantial portion of the State's energy needs through increasing reliance on energy efficiency measures and renewable energy for electric generation. However, even with strong demand reduction efforts and our goal of 20% renewables for electric generation by 2010, demand for natural gas in California is expected to roughly remain the same, rather than decrease, over the next 10 years. This is because, a substantial portion of the other 80% of electric generation (not met by renewable energy sources) will need natural gas as its fuel source, and natural gas will still be needed for the growing number of residential and business customers of the natural gas utilities. Therefore, the State's EAP also endorses obtaining new natural gas supply sources, such as LNG. Accordingly, one focus of the CPUC's current natural gas regulatory efforts has been to enable access to California's natural gas utility systems by new supply sources, including LNG.

A. Decreasing production rates from natural gas wells in North America

In recent years, there has been a noticeable decline in the rates of production of natural gas in both the U.S. and Canada. That is, analysts have found that once a typical new natural gas well begins producing, its rate of production is declining more rapidly than in

previous years. This is due to the fact that the most prolific sources and inexpensive supplies of natural gas have already been developed in most of the producing basins in North America. Consequently, more and more wells are needed to be drilled in order just to keep the level of production steady. This factor has dampened expectations about the level of domestic production in the future.

Natural gas price increases have lead to a dramatic increase in drilling of new natural gas wells. For example, in the U.S. the number of gas wells drilled in 2005 was 2 ½ times the number drilled in 1999, leading to a 33% increase in the total number of producing gas wells. However, there has been no significant increase in domestic production of natural gas - U.S. gas production was actually slightly lower in 2005 than in 1999. California natural gas production has declined by about 30% since 1999.

The U.S. Energy Information Administration (EIA) expects that, due to increased drilling and increased production in a small number of producing basins, total U.S. domestic production will increase in future years, but by only about 7.6% from 2005 to 2015, not nearly enough to match the EIA's forecasted 15.2% increase in national demand during that same period.[1]

B. Decreasing imports from Canada and diversion of Canadian supplies to other markets

The U.S. imported about 17% of its natural gas requirements from Canada in 2005, and Canada is by far the largest source of natural gas imports to the U.S., still well above LNG imports. California imported about 23% of its requirements from Canada in 2005. However, decreasing production rates are also occurring in Canada. In addition, many analysts expect that Canada will be using greater amounts of natural gas in the future for its own needs. The EIA now expects that imports of natural gas from Canada will decline by 45% in the next 15 years. This will have important implications for the U.S. in general and for California specifically.

Market developments had already impacted the price and volume of Canadian imports to California a few years ago. In the 1990's, Canadian Alberta supplies were the lowest-priced supplies available to California, largely because those supplies were constrained by the amount of pipeline capacity to transport gas to other markets in the U.S. Due to the low price, the interstate pipeline from Canada was typically full. However, new and expanded pipelines were built that allowed Alberta supplies to flow to Midwestern and eastern markets in the U.S. and to increase the Alberta supplies to eastern markets in

[1] Data from the EIA in this memorandum is from the EIA's Annual Energy Outlook 2007 (Early Release), which was just issued in the beginning of December, 2006.

Canada. This had a dramatic impact on the price of Canadian supplies to California. California imported 20% less gas from Canada in 2005 than in 2001, even though California still depended upon Canadian supplies for 23% of its demand in 2005.

C. Diversion of Rocky Mountain supplies to other markets

Fortunately for California, production of natural gas in the Rocky Mountains increased in recent years and more supplies were able to be delivered to California on a 2003 pipeline expansion from that region. California received more than twice as much Rocky Mountain supplies in 2005 compared to 2001.

However, just like Canadian production, Rocky Mountain production is also becoming constrained, and this has lead to the proposal of another major pipeline out of the Rocky Mountain region that will also deliver supplies to Midwestern and eastern markets. While market analysts expect that Rocky Mountain production will be one of the few natural gas producing areas in the U.S. that will increase production in the future, the new pipeline system could result in less Rocky Mountain production being delivered to California in the future.

D. Increasing demand, particularly from electric generation

While North American production is generally expected to remain flat or slightly increase in coming years, natural gas demand is expected to steadily increase, outstripping increases in domestic production and Canadian imports. Even if demand in California does not increase due to our strong energy efficiency and renewable energy programs, total natural gas demand in the U.S. is expected by the EIA to increase by 15.2% from 2005 to 2015. One of the main reasons that national demand is expected to increase is because electric generation relies heavily on natural gas as a fuel, and will do so increasingly in the future.

The amount of natural gas delivered as a fuel for electric generation in the U.S. increased by over 40% from 1997 to 2005 and amounts to well over 25% of total consumption. Natural gas used by electric generators in California is an even greater proportion of total demand, amounting to about 35-40% of total consumption.

The EIA forecasts an increase in natural gas demand by electric generators of about another 23% between 2005 and 2015. This estimate even assumes a 13% increase in coal use by electric generation. Increased emphasis on greenhouse gas emissions reductions may, however, result in even greater usage of natural gas, rather than coal or oil.

E. Changes in the interstate pipeline market

While there is currently ample interstate pipeline capacity from the producing gas basins connected to California, some changes have been occurring, and may be occurring in the future, that could have a significant impact on the State's ability to fully employ that pipeline capacity.

The FERC has clearly indicated that firm deliveries of natural gas on interstate pipelines can only be assured if shippers have contracts for firm capacity on those pipelines. Over the last 10 years, there has been a marked decline in the volume of capacity in firm contracts (which have California delivery points) between shippers and the two primary southwestern interstate pipelines, El Paso Natural Gas Company (El Paso) and Transwestern Pipeline Company (Transwestern). At the same time, there has been a large increase in the demand in states east of California. If parties in those states obtain firm pipeline capacity rights on Transwestern and El Paso, while certain firm contracts with California delivery points are not obtained by pipeline shippers, California would no longer be assured that it will be able to use the previously available capacity on these pipelines at all times, i.e. on a firm basis.

In addition, due to likely changes in the future configuration of gas flows on the Transwestern pipeline system, much of the capacity currently available to California on that pipeline, could be essentially diverted to the Phoenix area market. Transwestern is currently proposing a pipeline lateral on its system that could deliver natural gas to the Phoenix area. If firm capacity rights are obtained by pipeline shippers to the Phoenix area, this will result in a reduction of the amount of gas that could be delivered to California on Transwestern on a reliable basis.

Likewise, if more of the Alberta production is used in Canada, California would not be able to have the same amount of firm access to the Canadian supply, from which California previously benefited. In fact, Gas Transmission Northwest Corporation (GTN) estimates that there is approximately 450 MMcf/d of unsubscribed capacity on its interstate pipeline, which transports natural gas from Canada to California.

F. Increasing prices and price volatility

The price of natural gas has significantly increased since about 2002. During the 1990's and from the summer of 2001 through the fall of 2002, the average price was very steady, in the range of $2.00-$3.00 per million British thermal unit (MMBtu). During the California energy crisis, from the Summer of 2000 through the Spring of 2001, unreasonably high natural gas prices were being charged at the California border, resulting from market manipulation. Because there were ample supplies of natural gas, much of the rest of the North American markets at that time benefited from lower prices than California (with the exception of a few other western states affected by the California border prices.) There were many California ratepayers (residential and businesses), who had great difficulties paying for such high natural gas prices at that time in addition to the unreasonably high electric prices, which were independently caused by separate manipulation of the electric market.[2]

The price of natural gas has increased in years after 2002 and has become much more volatile, mainly due to market "fundamentals," i.e. the increased tension between North American supply and demand and certain other factors such as the price of oil. Higher natural gas prices are occurring not only in California but throughout North America. As noted above, the ability to produce natural gas supplies has become increasingly difficult. In addition, the cost of production has greatly increased. Most market forecasts indicate that demand will steadily increase to a greater degree than domestic production increases, while Canadian imports will decline, and that demand will only be met through increasing reliance on imports of LNG. Without new supplies from LNG to meet this demand in the future, there will be even greater upward pressure on the price of gas. Considering all of the electric generation plants dependent upon natural gas for fuel, natural gas price increases will cause electric prices to increase as well. There are many residential ratepayers and businesses, who cannot afford substantial increases in their gas and electric utility bills.

Further, if the supply/demand balance becomes tighter, the volatility of the price will become even more pronounced. Events such as swings in the weather (such as very warm weather in the summer, cold weather in the winter, or low precipitation) or sudden losses in production, e.g. due to hurricanes, will have even greater impacts on prices. Heightened price volatility makes it more difficult for consumers to manage their natural gas costs, and conditions in which constraints in supplies and/or infrastructure exist can be conducive to market manipulation.

[2] The damages to California ratepayers from just the natural gas manipulation during the energy crisis has been estimated to be approximately $8 billion.

Therefore, to help place downward pressure on natural gas prices, lessen the likelihood of skyrocketing prices, and enhance California's portfolio of supply, it is essential that LNG becomes a new source of supply for California.

G. Efforts must be placed both on demand reduction and obtaining new supplies

Rather than wait to see how the market develops in the future, the CPUC believes it is much more reasonable to take a balanced approach now to assure ourselves that the State will have adequate supplies and access to a diverse portfolio of supplies down the road. The State should both promote strong demand reduction efforts and further its access to a variety of natural gas sources, including new sources such as LNG supplies for at least a portion of its supply requirements in coming decades.

To gain access to LNG supplies will not occur quickly. The only terminal at this time which appears positioned to deliver LNG to California in the next few years is the Sempra LNG Costa Azul terminal in Baja Mexico. Supplies from that terminal will not begin until 2008 at the earliest. Even though that terminal is a short distance from the California border, California will only receive a portion of the natural gas from that terminal's 1000 MMcfd of delivery capability, as Mexican entities already have firm commitments for a substantial amount of that supply, and other demand, such as in Arizona, will be competing with California for the remaining supply.

II. LNG Import Terminals Should Be Sited in Remote Locations

The CPUC has recognized both the need for LNG terminals to provide additional natural gas supplies to California and the need to site them in remote locations away from densely populated areas, due to the hazardous nature of these terminals. For example, in 1944, LNG spilled from storage tanks in Cleveland, and the resulting LNG vapor cloud ultimately ignited into a fire, which killed 130 people and injured 225 people. More recently, on January 19, 2004, there was an accident at the LNG export facility in Algeria, where 27 people were killed and 56 people were injured from the resulting explosions and fires.

The Sempra LNG terminal is in a remote area in Baja California, Mexico and already more than 50% constructed. A review of the trade press, discussions with LNG project sponsors, and statements by market analysts at conferences indicate that in addition to the Sempra LNG terminal, the market will support an LNG import terminal along the California coast. There are at least three LNG import terminals, which have been proposed to be located in federal waters at least 10 miles offshore along the Southern

California coast and other potential projects as well. Therefore, LNG terminals do not need to be sited onshore in densely populated areas in California. There is no reason to expose the people in densely populated areas to any of the safety risks from an onshore LNG terminal when there are these much safer alternatives offshore.

Recent studies, which have used different assumptions to calculate the furthest distance that people could be harmed from the release of LNG as a result of an accident, terrorist attack or earthquake in worst-case scenarios, have estimated such distances to be in a range of between 4.3 to 7.3 miles from the LNG terminal or ship transporting LNG to the terminal. This is the distance that a flammable vapor cloud could spread before the LNG would become too dissipated and no longer be flammable. In all likelihood, the vapor cloud would be ignited and become a flash fire prior to reaching that maximum distance.

According to the Sandia National Laboratories Report (November 2005), in the event that the release of LNG is ignited right away and becomes a pool fire, the distance at which heat from the fire would pose a serious threat to people could reach 1.6 miles from the LNG terminal or LNG ship in a worst-case scenario. This is based upon the heat flux of 5 kilowatts per square meter (kW/m^2), which would be so hot as to cause a person to receive at least second-degree burns after an exposure to this heat of just 30 seconds.

Many scientists, including Dr. Jerry Havens (who has studied LNG safety issues for more than 30 years and is the CPUC's retained LNG safety expert), have criticized the use of the 5 kW/m^2 heat flux standard. People could be harmed by lower heat flux levels at distances more than 1.6 miles from the pool fire, because their exposure might well be for a period of time greater than 30 seconds. In a worst-case scenario, a lower heat flux of approximately 1.5 kW/m^2 (the level at which no significant harm would result to an individual even for extended exposure), would not be met until the distance from the pool fire was more than 4 miles.

Therefore, even in a worst-case scenario, an LNG import terminal at least 10 miles offshore would pose no danger or risk to the general population onshore. Under all of the recent studies of worst-case scenarios, the flammable vapor cloud, heat and/or fire would dissipate and would not spread to reach the shoreline or even get as close as 2.6 miles offshore.

For these same reasons, it is also clear that an LNG import terminal should not be sited onshore in or near a densely populated area. A worst-case scenario accident at an LNG terminal could endanger very many people in a densely populated area, living or working less than the above distances from the terminal (e.g., up to 7.3 miles for a flammable vapor cloud or 4 miles for the heat from a pool fire.) Onshore fires can also lead to secondary fires and spread to even greater distances than offshore fires, which will not spread on ocean water beyond the maximum distance that the LNG vapor cloud remains flammable (i.e., 7.3 miles).

Even in LNG accidents that resulted in releases affecting shorter distances than in the worst-case scenarios, too many people in a densely populated area could be in harm's way. Just a ten-minute accidental spill from an LNG ship while it is unloading LNG at a terminal could result in the release of up to 550,000 gallons of LNG.

For these reasons, LNG import terminals should not be sited in densely populated areas in California, particularly because California has much safer alternatives: the proposed LNG terminals at least 10 miles offshore.

cc: Commissioner Brown
Commissioner Grueneich
Commissioner Bohn
Commissioner Chong