HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

* * * * * * * * * * * *

House Resolution 100

* * * * * * * * * * * *

House Judiciary Committee

Room 205
Ryan Office Building
Harrisburg, Pennsylvania

Tuesday, November 27, 2001 - 9:40 a.m.

--oOo--

BEFORE:

Honorable Thomas Gannon, Majority Chairman
Honorable Jerry Birmelin
Honorable Patrick Browne
Honorable Brett Feese
Honorable William Gabig
Honorable Timothy Hennessey
Honorable Stephen Maitland
Honorable Kevin Blaum, Minority Chairman
Honorable Kathy Manderino
Honorable John Pallone
Honorable Joseph Petrarca

T2001-177

ORIGINAL

ALSO PRESENT:

Michael Schwoyer
Majority Chief Counsel

Judy Sedesse
Majority Administrative Assistant

Beryl Kuhr
Minority Counsel

Cathy Hudson
Minority Administrative Assistant

C O N T E N T S

REPRESENTATIVE GABIG: Good morning. I'll call the hearing to order. This is the Judiciary Committee hearing on House Resolution 100, which is an overview of energy costs in Pennsylvania. We have several members from all over the state, bipartisan. And we have a lot of people that are ready to do some presenting.

So unfortunately, the Chairman was unable to be here. But we do, as I said, have a lot of esteemed members who I'd call upon to do the important task of introducing themselves. We'll start with the far right, the most senior, probably oldest member here.

REPRESENTATIVE FEESE: Brett Feese, Lycoming County.

REPRESENTATIVE MANDERINO: Good morning. Kathy Manderino, Philadelphia County.

REPRESENTATIVE MAITLAND: Steve Maitland, Adams County.

REPRESENTATIVE PALLONE: Good morning. John Pallone, Westmoreland and Allegheny Counties.

REPRESENTATIVE GABIG: And I am Will Gabig from Carlisle, representing Cumberland and part of York County. The first -- and Michael Schwoyer, the Chief Counsel, is here. And he's the one that will hopefully guide us through this important hearing.

The first person on the agenda is Robert

Rosenthal, Director of Bureau of Fixed Utility Services, Pennsylvania Public Utility Commission. Sir, are you prepared?

MR. ROSENTHAL: Yes, I am, sir.

REPRESENTATIVE GABIG: You may proceed.

MR. ROSENTHAL: Good morning, members of the committee. Thank you for inviting the Pennsylvania Public Utility Commission to testify on the matters addressed in House Resolution 100 of 2001. I am Robert Rosenthal, Director of the Commission's Bureau of Fixed Utility Services, with responsibilities to provide technical services to the Commission and its bureaus in the areas of natural gas, electricity, telecommunications, water, wastewater, steam heat, and oil pipelines.

The PUC is just one of the agencies having jurisdiction over the activities of the energy industry. The other primary state agency having jurisdiction is the Department of Environmental Protection, which deals with the exploration and production of natural gas from wells and also waste, water, and wastewater permits and air emission permits from electric generating facilities in Pennsylvania.

The PUC is the primary economic regulator of the industry under the auspices of PA Consolidated Statutes No. 66. Now, particular relevance to today's discussion

are Chapters 22, natural gas competition, and Chapter 28, restructuring of the electric industry.

Now, I have provided the committee with fairly detailed written testimony on the industries. But this morning, I am presenting an educational introduction to the industry and its participants.

To begin with, the Pennsylvania electric industry, we are one of the leading producers and consumers of electricity. We are a net exporter of power. We produce more than we consume. We principally serve the regional markets of New Jersey, Delaware, New York, and Maryland.

As you can see from the slide, we have substantial investment in production facilities, lines; and we supply a great deal of the power for the region. We have 5.2 million electric customers. The electric market is segmented into generation, transmission, and distribution sectors.

The generators produce the power. The transmission system moves the power to market consuming centers at high voltage. And the distribution system moves the power locally to individual homes and businesses at lower voltages. During your ongoing presentations, you will also hear witnesses refer to these various segments.

For context, your individual homes are

connected to the distribution system. You probably notice large transmission towers and their large wires as you move across the state. And finally, the generation facilities are principally located in remote and rural communities and along waterways for cooling.

With the advent of Chapter 28 in 1996, the electric industry has undergone significant reorganization, which has resulted in the shifting of the generation facilities to either unregulated subsidiaries or new players in the Pennsylvania market.

The 6 largest producers of power in the state are identified on the slide. But there are also new smaller facilities owned by such firms as AES, Air Products, Williams, and PG Energy. Generation development has been a tremendous success story from the PA restructuring with new proposed generation that should ensure reliable resource for the new decade.

Of particular note is the development of wind generation. Two facilities have opened -- these are wind farms -- and 2 more are planned. You may have driven east from Pittsburgh and noticed the one located on the mountains outside of Somerset.

These new development of wind generation are of a particular note because they have been developed as a result of consumers asking for these resources to be

developed. But the principal source of power in Pennsylvania is from coal, with nuclear also a major contributor.

We have significant oil-based, hydro-based, and gas and dual fire-based units. This is a breakdown of the megawattage associated with the size of the units. But the economies of production favors the use of coal and nuclear with more than 95 percent of our actual generation being from those sources.

This mix is changing, as the new development is primarily gas-fired and designed to meet the peak demands of the system. Later this morning, you will hear some additional comments from PJM on this development and its impacts.

But coal is king in Pennsylvania. The majority of Pennsylvania generation uses coal, and it's from PA mines. It may be blended with other coal for emission purposes. And the other principal region we receive our coal from is West Virginia. PA companies do own units in West Virginia and in Ohio, which use local coal at those units.

Now, none of the PA units routinely use either southern lignite or what is known as Powder River Basin coal located in Wyoming. They don't ship their coal to Pennsylvania for consumption.

Fuels must be transported from either the well or the mine to the generating unit. Most of our coal uses rail for its transport. Where water courses permit, such as Western PA, barges are also used. Conveyors are used at mammoth generation plants, and trucks are used at smaller units to haul in local coal. That can be used for blending or for full use of the local facility.

Oil is moved by pipeline to 2 major oil-fired generation stations. But most stations also have small diesel units. That all comes in tank cars, tank trucks, or river barges. That gets the combustible fuel to the station.

To get the power out, the generation stations are interconnected to the transmission grid. In order for the transmission grid to operate reliably, the transmission system operates under criteria established by reliability councils. Two councils control PA operations.

The Mid-Atlantic Area Council owns the majority of the state, and it is actually coincident in size with the PJM. And the East Central Area Council affects the western part of the state. These councils were formed in the late 1960s as a result of the New York City blackout that cascaded through the whole East Coast.

The councils provide voluntary operating standards to be followed by the member companies in order

to ensure that we operate a safe and reliable system. But the grid itself and its investments are under the regulatory authority of the Federal Energy Regulatory Commission, or the FERC. And this is as a result of the FERC, the Federal Energy Policy Act of 1992.

Through their initiatives, we have witnessed the transformation of the old PJM Interconnection into the PJM independent system operator. FERC has used the PJM as an example and is seeking to expand its scope of operations to include Western Pennsylvania under the PJM West proposal and into the northeast to form 1 of the 4 super regional ISOs.

In the Midwest, we have competing transmission organizations vying for operational control of the transmission grid: The Alliance ISO led by AEP, First Energy, and Dominion; and the Midwest ISO, which is based further west in Indianapolis.

In any case, the purpose of these ISOs is to provide interconnection evaluation when generators need to hook onto the grid. They also provide congestion management, as power does, as the term might be, get mucked up and not flow. That is done by analysis and by redispatching of the generating units.

Then there is also market operations for the grid. And in PJM's case, they operate both energy and

capacity markets in conjunction with its operation. And they will provide you much more detail on this issue.

The electric distribution companies are the familiar names that have served Pennsylvania for many years; though, they are now presently restricted to just the wiring business.

You will notice that the new names for FirstEnergy, East, West, and Penn Power is actually part of the Ohio East route. That is a status which has occurred in the last month through the reorganization. ConEd is the owner of Pike County Light & Power through a number of mergers in the past few years.

While they may have merged and they're confined to the wires business, their duties and responsibilities have not changed to what they had to do prior to Chapter 28's enactment. There is renewed focus on reliability meeting the consumer needs of Pennsylvania.

They will still handle local line maintenance. You still see their trucks out there. We regulate their financials. We work with them on outage response, and we also work with them on economic development. We also handle complaints.

As you're well aware, our Bureau of Consumer Services handles complaints associated with companies; and the companies must respond to the complaints that are

registered with the Commission.

Moving to the gas industry. Natural gas is also a major part of the Pennsylvania economy, providing heating for more than 2 million residents in the state, primarily in Western PA where saturations approach 95 percent of the population in many areas.

We are a producer. We are a storage reservoir for much gas that flows throughout the whole northeast. We have a lot of pipeline. And we have a good size industry compared to many other states. As you can see, we are 5th in revenues.

Now, Pennsylvania as a producer meets 7 percent of the state's needs. The Appalachian Basin is an old production area and was the impetus for the industry itself in the past. There is still drilling done in PA, but it is price competitive.

In general, prices for natural gas will need to remain above $3.50 in Mcf in order to support drilling in Pennsylvania. PA wells are characterized as low yield but long life. This is the exact opposite of what is found when you're drilling in the Gulf.

The Independent Oil and Gas Association based in Greensburg, Pennsylvania can provide the committee with further guidance on Pennsylvania's drilling needs, as they are a member organization handling many of the Pennsylvania

producers.

The producers of natural gas in general, though, are familiar names, as gas is normally found conjunctive with oil. The major oil companies are also the major gas companies. However, I would point attention to Equitable, Dominion, and NFG Supply, as they are also major participants in the Appalachian Basin, more local gas.

They produce and gather much of the Appalachian Basin gas and move it to market in Pennsylvania, New York, Ohio, and West Virginia. We also have a number of small producers. The IOGA organization I mentioned is their representative. They have recently held their regional meeting.

Now, the majority of gas, natural gas that is produced comes from remote regions: The central basin in the mid-continent area, the Gulf states. And it must be moved to market through the interstate pipeline system. Initially formed as part of World War 2, it has been developed where there are approximately 31 major pipelines that move 95 percent of the gas nationwide through all areas.

In the northeast, we have a number of smaller pipelines which provide service to the area. The most recent development has been bringing gas down from the Sable Island region in Canada in the Nova Scotia area. And

we have a major development to move gas from the Chicago market region which links up to the Canadian gas in the far west.

To give you an idea of the flows of where gas is found and where it moves to market, as you can see, a lot of it points to the northeast coming up from the Gulf and in from Western Canada. There is major development also in the southeast in recent days, which will affect the amount of gas made available for the Pennsylvania area.

As a result of the flows on the system, there's been establishment of market centers, hubs as they're called. And they are where the pipelines interconnect and cross. And there usually are storage facilities located there.

So you can see we have 3 of them located in Pennsylvania, one operated by Columbia; one operated by CNG; and another one known as the Leidy Center, which sits on top of 2 of the largest storage fields in the northeast.

Pricing is generally based upon the Henry Hub, which is the onshore point of offshore gas coming in in Louisiana. If you'll read The Wall Street Journal, you'll see the price of the Henry Hub. They are listed both on the cash and the futures market every day.

Gas must be held in storage, though, in order to meet the market. Storage is critical to meeting the

peak seasonal demands and needs of the heating market. Olds Fields, Special Formations, and LNG combine to provide a flexible program of storage to meet the peaks that are experienced. These peaks are weather driven.

The new advent of large natural gas generation will impact the ability of the system to meet future needs. Gas which formerly was moved during the summer off-peak season to fill storage requirements for the winter may be diverted to meet that summer electric generation need.

As you can see, storage is a big piece of Pennsylvania. We have a lot of it. We serve the whole northeast corridor with that storage. These are both storages which run for the whole winter season of 90 days, 45 days, and down to 10-day peak-day storage capabilities. They are a major component to stabilizing the system during the wınter months.

The interstate pipeline players are listed above here in the, the slide. Because of the demands on the natural gas system, principally new generation, new sources of supply, and new pipeline development is critical. The major pipelines are planning to develop new systems for the area.

The last one listed on the slide, the Independence, is planned for service in the winter of 2003. It is designed to move gas from the Midwest to the Leidy

storage hub. In the Midwest, it will intersect pipelines designed to bring Western Canadian gas down to the states.

This is the same system that could move gas from the Mackenzie Delta in the Northwest Territory or the ANWR of much debate in Alaska under various pipeline proposals. So you can see the system is interconnecting, but it will take some investment to get the gas to market.

Our local gas distribution companies are also familiar names; though, many have merged and been bought in the last 5 years. I think some of them you probably would know the name on the right but not the name on the left. Exelon obviously was an example of merging with a major Midwest firm, but PECO Energy is still what appears on the bill.

Southern Union was a Missouri Gas and Texas firm. It bought PG Energy a number of years ago. But their obligation hasn't changed. With the advent of Chapter 22, which was passed in 1999, they must still plan for the orderly development of their territory, though in conjunction with markets and pools that operate on their systems.

They still provide local line maintenance. And in addition to the financials and leak outage response, the Commission actually has a federal role with the gas companies. We are a federal agent for safety. We do gas

safety inspections of the lines and also the interstate pipelines that operate in the state. So we have a slightly different relationship with our natural gas distribution companies than we do with our electric companies.

Now, the 2 other major heating sources in Pennsylvania are heating oil and propane. For information regarding those 2 areas, you should probably contact the Department of Environmental Protection and their Bureau of Environmental Sustainability.

They are the recipient and the holder of information not only regarding those 2 fuels but also gasoline, which is at your local service stations. They monitor the storage in both of those and the pricing on those and the available resources to move that fuel to the homeowner or to the business.

There is a strong interdependence between the heating oil, or I should say the number 2 oil, the number 6 oil, and the natural gas market. As gas is interrupted in the winter for major industrials, many of them move over to the oil market; and their oil must be trucked in. We deal with this a great deal during the winter on an emergency basis to make sure that heating oil is delivered to the appropriate industrial sources.

Again, the Commission thanks the committee for this opportunity. We're prepared to answer questions on

this important issue either regarding the slides or regarding the written testimony.

CHAIRPERSON GANNON: Thank you, Mr. Rosenthal. Any questions? Representative Feese?

REPRESENTATIVE FEESE: No.

CHAIRPERSON GANNON: Representative Manderino?

REPRESENTATIVE MANDERINO: Thank you, Mr. Chairman. I'm actually trying to read through the rest of your written testimony. And what you didn't cover in your slides, you've covered here in terms of what happened over the last winter session.

I have not yet gotten to the end. And I don't know if your testimony touches at all on, from our point of view as policymakers and hearing from constituents, when these price fluctuations are going on. To what extent is there any, are there any measures or any, any -- I don't know what the right word is -- any provisions in our regulatory scheme that would kind of give assurance to consumers that what they are experiencing is actual market fluctuations versus what we kept hearing with regard to unfair price gouging on consumers?

What in our regulatory scheme, if anything, might protect against that or -- do you understand where I'm coming from?

MR. ROSENTHAL: Yes. Even though we are in a

choice market for a number of the natural gas customers, we still do annual reviews on the purchasing practices and the purchasing planning of the natural gas distribution companies as a supplier of resource for their customers.

Many contracts are linked to indices, such as the Henry Hub indices. And so they will fluctuate the contract with the pricing that is going on in the market. That experience last winter had a number of factors, a combination of which came out the prior winters as a matter of fact.

A lack of drilling for natural gas had been occurring for a number of years to the low prices. You had substantial drawdowns during the prior winter when there were all distribution problems. You had a lack of refilling of storage due to competition for gas in the California market for generation and also in the eastern markets for some generation, as it was an extremely hot summer.

And then we had a very early winter, which affects the way you manage your storage. And that created stresses on the system in terms of moving gas timely to the market. And that combination generally caused the flare-up in the prices.

Now, is it price gouging? You might -- at some point, I think Attorney General Fisher would

investigate that. In particular, we are looking more at the market prices that we see every day in the market and the stresses that are on there, if there did seem to be pressure on the system, if there were a number of operational flow-out orders which restricted the flow of gas.

We also had extreme cold, the coldest winters in November/December of any recorded. That's about the best we can do in terms of assuring that the price gouging isn't going on but understanding the factors which are creating the flare-up in the gas prices.

This winter, storage is very good moving into the winter. Prices have come down. We also have lower industrial activity, which is also contributing to availability of the natural gas. And we're not seeing prices escalate at all in this regard.

REPRESENTATIVE MANDERINO: If I can just ask one follow-up question. In your written testimony, you talk about how utility rates are adjusted on a quarterly basis. Would I be correct in assuring customers that when a company comes in for a quarterly -- I don't know what you call it -- rate filing, adjustment, et cetera, that one of the things that the PUC looks at in determining whether that's justified or how much it's justified is the amount of profitability and that one of the things you look at is

whether or not there is excess?

I mean, is that kind of full disclosure type of thing that you -- and are you allowed to regulate the -- maybe this is an ignorant question -- the amount of reasonable profit to again assure consumers that there's not excessive opportunities being taken because of the market?

MR. ROSENTHAL: Let's start at the beginning under our statute, which is the 1307 section of our code. There is no profit on the natural gas piece of that. The actual commodity and pipeline costs that the company experiences, there's no markup of that. And that gets involved in the annual review and also the quarterly adjustments.

The only profit that the companies, our distribution companies make is on the actual sale of rental, effectively, of the distribution facilities, the investment in that movement. Last -- that cost itself, while they will make more money in the winter because there is more sale, they don't necessarily make more money when the price goes up.

The winter had more impact on them as opposed to just a price flare-up. In fact, it actually can lead to constraint. When the people reduce, when they see the price, reduce their consumption, the utility will have less

profit. And the -- but it's not affected by the price flare-up in the natural gas market.

That dollar for dollar flows through to producers and in the natural gas pipelines for the movement of the gas.

REPRESENTATIVE MANDERINO: Thank you. Thank you, Mr. Chairman.

CHAIRPERSON GANNON: Representative Maitland?

REPRESENTATIVE MAITLAND: No.

CHAIRPERSON GANNON: Representative Pallone?

REPRESENTATIVE PALLONE: No. Thank you.

CHAIRPERSON GANNON: Representative Gabig?

REPRESENTATIVE GABIG: Thank you, Mr. Chairman. I guess it was last spring there were a lot of complaints from the floor of the House that if prices of, in this case, gas go up 50 percent, there should be an automatic criminal investigation into, into such an occurrence. The logic behind that was very fuzzy to me also.

But if I understand, reading primarily your written testimony that Representative Manderino was referring to, it looked like prices went up last winter 60, 70 percent from the previous winter. But if I'm understanding it, it sounds like a very highly regulated industry, that pricing -- and PUC has a lot to do with the

setting of, of the price. Am I following -- is that right?

MR. ROSENTHAL: The actual --

REPRESENTATIVE GABIG: When you talk about price gouging, would it be the PUC that's gouging or would it be some private industry? Who is the source of this price gouging when we're talking about prices going up 60 or 70 percent?

MR. ROSENTHAL: Well, I don't think it's the PUC. The wellhead pricing has been decontrolled since 1978. And what you see when you read the Journal or you monitor the market is essentially the day-to-day trading of that natural gas in the market among the large gas companies and consumers or marketers.

And what you might have as a case could be the multiple hands that the gas passes through which generates the escalating price or simply the timing in the market of when people need gas and the availability and the ability to get that gas to the necessary market. We notice that the gas will flow to price.

To give you an example, in the Chicago market, there are higher penalties for nondelivery than there are in the Pennsylvania market. So that in order to avoid penalties, the companies that operate in that area are willing to pay a higher price for the natural gas in order to avoid the $50 penalty that might come under the gas if

they are short in their delivery.

That affects our market because when you're sitting down in Louisiana, you just turn the valve; and it can go to Chicago or it can go to Pennsylvania. And you will get that effect in the market overall nationwide. The movement of gas on the interstate pipeline is regulated, but the base cost of gas itself is not a regulated item.

So it is a function of how much storage is put in there and what is the current flow on the system as well as what are the current productive levels of the wells. If you don't have the wells there that have been drilled to meet the market, those that are already operating will have a little bit of market power in that area. And that will be investigated at the federal level in general.

REPRESENTATIVE GABIG: Just a follow-up to that, if I might, Mr. Chairman. So do you think with all these market forces and drilling -- and you didn't even hit on the environmental part of it -- to drive up costs for cleaner gas, simply if you read some arbitrary number of a price, do you think that's an indication in and of itself of some kind of criminal intent to price gouging based on your experience?

MR. ROSENTHAL: No.

REPRESENTATIVE GABIG: Thank you, Mr. Chairman. No other questions.

CHAIRPERSON GANNON: Thank you, Representative Gabig. Representative Hennessey.

REPRESENTATIVE HENNESSEY: Thank you, Mr. Chairman. Mr. Rosenthal, with regard to your testimony, you indicated that storage refill during the summer of 2000 heating into last winter, that during the summer, refill was slowed down in the hopes that eventually we'd see lower prices. The lower prices didn't come.

And then as we entered the winter, it says in your testimony, you indicated we were below the historic levels of storage. Is there a required percentage or amount, volume of storage capacity that we require of any natural gas company so that -- I understand the idea of let's wait, with the idea that things would be cheaper.

But if they don't get cheaper and we enter a very cold winter with extremely low storage capacity, we've really shot ourselves twice in the foot. And should there be a required level of storage if there's not one now?

MR. ROSENTHAL: It is not within the Pennsylvania PUC jurisdiction that that would occur. The maintenance and filling of storage fields are pretty much an engineering decision as to minimum levels and maximum levels.

But anything in between, I'm not aware of any regulatory approvals -- and if there are, they would be at

the federal level -- for how much fill they put into those storage fields. That's -- there's some criteria on an engineering basis. But to go from 75 to 100 percent levels is probably not a regulated item at this point.

REPRESENTATIVE HENNESSEY: But did we enter the winter, or last winter with 75 percent storage capacity, do you know?

MR. ROSENTHAL: In various portions of the region, the production area was below that. The western region was below that. The eastern region was above that. Based nationally, we were about 70 percent. This year we're entering it in excess of 90 percent.

REPRESENTATIVE HENNESSEY: So that to some extent, the crisis, the pricing crisis that we saw last winter in a sense was triggered by someone waiting around, some corporate decision waiting around to see if prices would drop and when they didn't drop, everybody paid the price for that mistake made at some corporate level somewhere?

MR. ROSENTHAL: Yes.

REPRESENTATIVE HENNESSEY: Thank you.

CHAIRPERSON GANNON: Representative Petrarca?

REPRESENTATIVE PETRARCA: No questions.

CHAIRPERSON GANNON: One of the charts here, a couple of the charts you showed with respect to electric

generation, apparently natural gas or gasses are a very, very small percentage of that. And with respect to heating, I think you said the principal sources of heating are heating oil and propane and that gas is a very small percentage of the heating.

MR. ROSENTHAL: No. For home heating, natural gas is a very large percentage. In the western part of the state, about 95 percent. In the eastern portion, it's about 35 percent, depending on where you are. It may be a little bit higher, say, inside the City of Philadelphia but less in the suburban area.

Heating oil actually is a major component in the eastern portion of the state for its home heating.

CHAIRPERSON GANNON: Okay. Thank you. I noticed on the map that Pennsylvania is a very large storage area. So -- but it's probably far from the source, most of it coming from the, I guess the southwest.

MR. ROSENTHAL: Uh-huh.

CHAIRPERSON GANNON: But how -- when that gas is stored there, how do price fluctuations at the source affect the price from the storage area to the consumer? Does that remain constant or what it was at the time that the gas was put into storage?

MR. ROSENTHAL: There are some additions by the storage operator for when gas is withdrawn from the

storage. There are charges. They are not substantial in regarding the pricing of the gas; but there are, there are some additional margins there.

Also, there are certain conditions as to the timing that gas can be withdrawn from certain storage areas in order to maintain that storage field in its maximum operating condition. So it's a question of -- the storage itself functions as a peak response to the weather conditions that are being experienced in the market.

And so it may be placed in -- the goal is always to place it in at a low pricing time, let it be stored. And then when it comes back out, it balances the price with what might be a higher price for flowing gas at the time.

So the company manages a portfolio of source with the storage and with its flowing gas in order to meet the needs and overall provide both a reliable and cost-effective management of the supply to the customer.

CHAIRPERSON GANNON: Would it be fair to say then what the storage company is doing is trying to strike a balance between what the gas that's in storage costs and what the gas that's coming through the pipeline now costs to put into storage?

MR. ROSENTHAL: Yes.

CHAIRPERSON GANNON: Thank you. Any other

questions from any of the committee members? (No response.) Thank you very much, Mr. Rosenthal, for being with us and sharing this information today. Appreciate it very much.

MR. ROSENTHAL: Thank you.

CHAIRPERSON GANNON: I believe our next witness is Mr. Douglas Biden with Electric Power Generation. Welcome, Mr. Biden. You may begin when you're ready.

MR. BIDEN: Thank you. Good morning. Chairman Gannon and distinguished members of the Judiciary Committee, my name is Doug Biden. And I am the President of the Electric Power Generation Association. EPGA is a regional trade association of electric generating companies with headquarters here in Harrisburg.

Our member companies include Allegheny Energy Supply, Exelon Generation, FirstEnergy Generation, Midwest Generation, Orion Power Midwest, PPL Generation, and Reliant Energy. These companies own and operate more than 108,000 megawatts of electric generating capacity in the United States.

Approximately half of this capacity is located in the Mid-Atlantic region, one-third of it in Pennsylvania. In addition, EPGA members have another 7,000 megawatts of generating capacity in various stages of

planning and development in the Commonwealth and surrounding states.

At the outset, EPGA would like to express its sincere appreciation to Chairman Gannon and this entire committee for conducting this investigation into the factors that affect energy prices. We believe it is important that our policymakers, especially our elected officials, understand how deregulated energy markets work. And we hope our comments today help contribute to that understanding.

Unfortunately, California has, in the minds of many, given deregulation a bad name. So we welcome the opportunity to appear before you today to explain the factors that determine electricity prices and to express our views that energy markets can and do work.

First, some basics. EPGA's members generate electricity and sell into the deregulated wholesale power market. One such market is conducted by the PJM Independent System Operator, or ISO, which currently includes most of Pennsylvania and, when the PJM expansion into Western Pennsylvania is complete, will include all of the Commonwealth except the Pennsylvania Power utility service territory in and around New Castle, Pennsylvania.

The Penn Power system is expected to remain part of the Alliance Regional Transmission Organization, or

RTO, a large wholesale market just now being formed which will stretch from Western Pennsylvania through Illinois. Our wholesale customers are electric utilities, now often referred to as distribution companies; retail electricity marketers; load aggregators; and municipal electric systems.

EPGA's members are not utilities and are not regulated by the Pennsylvania Public Utility Commission. Our ability to sell power in the wholesale market at market-based rates is determined and controlled by the Federal Energy Regulatory Commission, or FERC.

As with other commodities, wholesale electricity prices are a function of costs as well as the forces of supply and demand. Different power plants can have widely varying production costs, and their output is generally priced accordingly.

For plants that burn coal, oil, and natural gas, costs are dominated by fuel costs and, secondarily, by environmental compliance costs. For nuclear and renewable energy plants, such as wind, hydro, and the like, capital investment plays a larger role in determining costs.

Depending on relative production costs, Pennsylvania gets about 57 to 59 percent of its electric generation from coal-fired plants, 33 to 35 percent from nuclear facilities, and the remainder from natural gas,

oil, and renewable energy plants.

The increase in wholesale electricity prices that occurred in our region last year can be attributed, for the most part, to the increase in natural gas prices. Even though gas currently accounts for a relatively small percentage of electric generation in Pennsylvania and PJM, the more than threefold increase in gas prices that occurred last year had the effect of pulling up regional spot market coal prices. And of course, we are considerably dependent on coal.

Production costs are an important factor in determining wholesale power costs. So are supply and demand. Spot market prices; that is, prices quoted at the time of day of purchase, can and do vary widely depending on supply and demand.

Prices at 3:00 a.m. on a mild October night when demand is very low can be less than $10 per megawatt-hour. That's roughly equivalent to one cent per kilowatt-hour. That is equivalent to one cent per kilowatt-hour.

On the other hand, prices at 3:00 p.m. on a hot summer afternoon can often reach hundreds of dollars per megawatt-hour, thousands of dollars per megawatt-hour in some markets, as demand presses up against available supply. This variability in prices is called volatility,

and it is characteristic of wholesale electricity spot markets.

In stark contrast to California, where utilities were effectively prohibited from entering into power supply contracts, Pennsylvania and surrounding states put no restrictions on their utilities' ability to reduce their exposure to wholesale price volatility through long-term bilateral contracts.

As an example of proficient use of that ability, only 15 to 18 percent of PJM Energy is purchased through the volatile spot market. That means 82 to 85 percent of the energy is transacted through long-term agreements between consenting parties based on their knowledge and expectations of wholesale market conditions.

Average wholesale electricity prices are currently dropping, are below last year's levels, and are expected to remain lower than last year through, at least through the winter of 2001/2002. This is due to lower power plant fuel prices, new power plants coming on line, and lower aggregate demand due to depressed economic conditions. If the weather continues to be milder than last year, wholesale prices will be further dampened.

Looking to the longer term, there are a number of developments that will or could restrict electric generation output in our region and increase wholesale

prices. First, transmission constraints. Mr. Rosenthal alluded to this in his testimony.

The deregulation of the wholesale power market, pursuant to the Energy Policy Act of 1992, has delivered an increase in generating capacity and a significant improvement in power plant efficiency and availability. It has also led to a pronounced increase in the volume of wholesale power transactions.

Unfortunately, the investment in electric transmission capacity has not kept pace with the increase in wholesale sales. The result is congestion problems on the grid, which increasingly prevent electricity demand from being met by the lowest cost power plants. Increasing congestion, other things being equal, will increase wholesale power prices.

Fuel prices: Most of the generating capacity currently planned or under construction both nationally and regionally will utilize natural gas as its primary fuel. There is some debate right now about the underlying adequacy of gas resources to meet the higher demand from the power sector.

Certainly, gas producers responded to higher prices last year by stepping up their drilling and exploration activities. Supply expanded, as it should; and prices fell. Whether these lower prices will hold in the

face of a projected 50-plus percent increase in gas demand from the power sector over the next few years remains to be seen.

Although gas presently accounts for a relatively small percentage of electric generation in our region, its use is expected to grow rapidly. And gas-fired plants will set what's called the market clearing price in the wholesale spot market over an increasing number of hours. So wholesale electric price volatility will, to an increasing degree, be dependent on natural gas price volatility.

The failure of the federal government to address the nuclear waste disposal issue could adversely affect the relicensing and operating costs of nuclear generating facilities. The slow and uncertain relicensing of hydroelectric facilities by the Federal Energy Regulatory Commission and some of the conditions being demanded by state agencies and interveners in that process could threaten the viability of those facilities.

Pennsylvania's and the United States Environmental Protection Agency's new regulations governing nitrogen oxide emissions, or NOx. Pennsylvania generators have already reduced their NOx emissions by 55 to 65 percent from 1990 levels.

Achieving an additional 15 to 25 percent

reduction by 2003 will require units to be taken out of service for installation of pollution control equipment and will add hundreds of millions of dollars to the cost of production. Increased variable costs will be reflected in wholesale price bids.

Whether generating plants will be able to recover their fixed capital costs will, as in any market, depend on the forces of supply and demand. If a generator makes the judgment that it cannot recover its capital investment in emission control equipment, it may decide to retire some of its plants. Either way, in a region dependent on coal as a power plant fuel, as we are, complying with the NOx regulations will create upward pressure on wholesale prices.

EPA's New Source Review Initiative could require older coal-fired plants to shut down or be retrofitted with the same emission control equipment as brand new plants.

Other environmental initiatives that could affect electricity prices include EPA's proposed particulate and ground-level ozone standards -- those are being tightened now -- regulations requiring mercury emission reductions at fossil-fueled power plants, the Regional Haze Rule, regulations on cooling water intake, and regulations governing what are called total maximum

daily loads to surface waters.

Also, Pennsylvania's proposed water resources legislation could make it more difficult and expensive for power plants to obtain the substantial volumes of water they need for cooling.

We're not here today to try to prepare the public for a massive run-up in wholesale power prices. After all, supply and demand factors as well as the introduction of new technologies in the deregulated market will at least partially determine whether increased power plant costs are borne by electricity customers or investors in generation.

We mention these developments only to point out that the efficiencies and cost savings we have realized from electric restructuring can be overwhelmed by other developments and to caution that we should not let ourselves be trapped, as they apparently were in California, by the belief that electric restructuring means that prices can only go down or that they should only stay down.

The appeal of electric competition is that prices will be set at levels that are beneficial to both consumers and producers. And the benefit will be greater to both than what occurred under regulation, provided the market is allowed to work without unnecessary interference

or manipulation by any participant.

Thank you for your kind attention. I'll be happy to answer any questions that you may have.

CHAIRPERSON GANNON: Thank you, Mr. Biden. Representative Gabig.

REPRESENTATIVE GABIG: Thank you, Mr. Chairman. Sir, referring to page 5 of your written testimony or what I have as page 5 of your written testimony, in paragraph 2 regarding fuel prices, you talk about the increase, projected 50 percent increase in gas demand from the power sector. What do you mean by power sector?

MR. BIDEN: Electric power generation sector. That is the -- of all the megawatts currently under construction regionally and nationally, I think in that region, over 90 percent of that capacity is scheduled to use natural gas as a power plant fuel. And nationally, I think the percentage is even higher than that.

REPRESENTATIVE GABIG: So the new power plants that are coming on line are gas-fired power plants versus coal-fired or nuclear power plants; is that right?

MR. BIDEN: Right.

REPRESENTATIVE GABIG: And if we're, if we're creating new power plants, as we are in Pennsylvania, building new power plants unlike, say, California, which

maybe wasn't building enough power plants out there, should we be able to meet the increased demand for --

MR. BIDEN: The increased demand for electricity, yes. The question that I alluded to in my testimony was whether or not the gas industry can meet the increased demand for gas from the electric power sector. A 50 percent increase from the electric power sector over the next 2 or 3 years, which is what's expected -- and that's a fairly conservative estimate -- is a tremendous increase in demand for natural gas.

Now, against that, industrial demand for gas has fallen off because of depressed economic conditions. But we are, for the most part, still moving ahead with plans to build natural gas-fired power plants. A lot of times, gas is referred to as the fuel of choice for power generation.

I tend to call it the fuel of regulatory necessity. With all of the environmental initiatives facing us, it's very difficult to get financing for a new coal-fired power plant. If you, if you, if you finance a new gas-fired plant, at least you know you're going to be able to run it from an environmental control perspective.

Whether or not you're going to be able to fetch the price in the wholesale market for the output of that plant if gas prices run up tremendously is another

issue. And that's a risk that the investor has to take.

REPRESENTATIVE GABIG: And the second thing that you mentioned was the long-term contracts that we were able to have here in Pennsylvania in terms of electric. And that was the differentiation you made between California's. They were unable to do that; is that right?

MR. BIDEN: Well, there's some debate. If you ask the California Public Utility Commission, they will say that they did not prevent their utilities from doing that. However, they made it clear that they would not be able to recover costs from ratepayers if the costs of those contracts exceeded the spot market price.

So that the choice to the utility then was to buy from the spot market price because the PUC had made the judgment that that was de facto reasonable. And that's why they bought all their power from the spot market.

REPRESENTATIVE GABIG: Well, not to focus on California but to keep it in Pennsylvania's perspective, did you say about 85 percent of the electricity was covered under long-term contracts here which would even out the price versus being on this volatile spot market; is that right?

MR. BIDEN: Right, right.

REPRESENTATIVE GABIG: Just, Mr. Chairman, if I could, just as a personal interest, you mentioned on the

next page the relicensing of hydroelectric facilities, the problem with that. Is that a problem in Pennsylvania?

MR. BIDEN: It is, it is to a certain extent. We're not terribly dependent on hydro. We get about 2 percent of our generation from hydro. But those hydro facilities are very important when we have periods of high peak demand.

We need that output then because -- obviously, all the power plants are needed then. And there are a lot of intervenors. I mean, people who fish -- I like to fish. I don't particularly like the water being impeded by hydroelectric plants, but the plants are there.

And I don't think it makes sense, since the plants have been there for decades, to have to tear them down or have to convert them to a run-of-river facility to restore fishes to an area that haven't been there for decades. It's just a difference of opinion.

But those are the kinds of issues that we get involved in in the hydro relicensing --

REPRESENTATIVE GABIG: But is it a Pennsylvania, say, DEP or is it an EPA, is it federal, these intervenors that you're talking about? Is it more of, is that a federal issue?

MR. BIDEN: It is a federal issue. But the FERC defers to the state agency that has responsibility for

enforcing the Clean Water Act. So in this case, they defer to DEP. DEP then brings in the Fish Commission and all of the other intervenors.

You know, groups like Trout Unlimited, they're not particularly fond of hydroelectric facilities. And they get very active, and so do other community groups. So it's something that we need to deal with. But it does not affect a tremendous volume of our generating capacity.

REPRESENTATIVE GABIG: Thank you, Mr. Biden. And thank you, Mr. Chairman.

CHAIRPERSON GANNON: Thank you. Representative Hennessey.

REPRESENTATIVE HENNESSEY: Thank you, Mr. Chairman. Mr. Biden, also on page 5 of your testimony, you indicated problems with the transmission capacity. Who controls whose electricity is being transmitted over the transmission lines at any particular time?

MR. BIDEN: Who controls that?

REPRESENTATIVE HENNESSEY: Yeah.

MR. BIDEN: Well, with the exception --

REPRESENTATIVE HENNESSEY: I mean, you're saying that, you know, congestion on the transmission grid prevents electricity demand from being met by the lowest cost power plants. So somebody's making the determination if we can't buy from the lower cost producers, you know, we

have to buy at a higher cost.

Is that controlled by -- who owns the transmission lines? There are certain companies that own those, I guess.

MR. BIDEN: Right, the transmission owners. The utilities own the transmission lines. PJM operates them. And I'm sure Cindy Taylor will give you some details on that and probably answer those questions related to transmission better than I can.

But the general problem is, particularly within PJM, most of the lower cost generation is in the western part of PJM. Most of the higher cost generation is in the eastern part of PJM. So you get this dominant west to flow east, or west to east flow of power.

And what happens is the transmission lines become overloaded. So it makes it necessary for you to take, to dispatch power plants not on an economic basis but you have to leave the economic dispatch order and bring higher cost power plants on at the other side of that congestion constraint to increase the flow back against it.

That's it in a nutshell from a non-engineer. But that's basically the problem. The lines get overloaded moving predominantly west to east. That's the predominant direction of the congestion in PJM. Am I not explaining that to you satisfactorily?

REPRESENTATIVE HENNESSEY: Well, I understand that. But I'm not an engineer. I'm not going to pretend to understand.

MR. BIDEN: I'm not either.

REPRESENTATIVE HENNESSEY: Who sets the priority? Does the utility company who owns the particular transmission line determine that it's going to transmit power that's costing $20 a kilowatt-hour as opposed to $15 a kilowatt-hour that's equally available?

MR. BIDEN: PJM would determine that. If we have to go out of economic merit order, PJM would then contact generators at the other end of the transmission constraint and try to find the lowest cost producer of those already higher cost producers to relieve this congestion constraint.

And they have procedures in order for contacting them instantaneously when these problems arise. And those, those plants, those plants -- let's say you bid into the market at $60 a megawatt-hour and you would not have been expected to have your bid accepted.

But there's this transmission constraint that makes it impossible for the lower cost producers in the western part of PJM to meet load in the east where most of the load is. Now you're going to take that plant's bid, that $60 bid to get them to generate to help relieve the

transmission constraint.

To explain it beyond that would get into physics. And I took baby physics in college. So --

REPRESENTATIVE HENNESSEY: But it sounds like, to the extent that we can in the eastern part of Pennsylvania, we are being provided with the least expensive. And it's only when transmission problems create a backlog or a backlog effect movement of that electricity that we then purchase the higher price.

I was concerned because you said transmission congestion prevents electricity from being met by the lowest cost power plants. It sounds to me like what you're saying now is most of the time, it is being met by the lowest cost and it's only in times of peak congestion that we then turn to the higher cost suppliers and bring their power on line.

MR. BIDEN: Correct.

REPRESENTATIVE HENNESSEY: Okay. Thank you.

MR. BIDEN: Correct. It's only in times of congestion, only during times of congestion.

CHAIRPERSON GANNON: Thank you. This congestion issue, you know, my concept of congestion is too much is in the system. It's going in on one end and not going out of the other end fast enough. Is that what happens with electricity? Or is it when the demand goes

up, there's so much energy going through the system, you know, it's coming out and going out at the same speed; it's just the volume is going up so much?

MR. BIDEN: That's correct. That's correct. And as a result of the Energy Policy Act of 1992, the volume of wholesale transactions has gone up tremendously. And the transmission system was originally built to meet the local utilities' native load demand.

And then they have interconnecting ties between these systems. But it was never designed for this type of a market. So we really need to beef up the investment in that transmission system.

Now, we all hope that with this movement to larger regional transmission organizations, like the FERC is trying to do now, that once we do that, the uncertainty as to who is going to control the wires, who's going, who and how are they going to be compensated for investing of those wires, that that uncertainty will be alleviated and the types of investments that we need in transmission will be made.

If that -- however, I mean, I must point out, generation is a substitute for transmission. So if we don't do that, I think you'll see these new technologies like distributed generation be deployed much more rapidly. And they in themselves can help relieve some of that

congestion by placing that distributed generation source at the opposite end of those transmission constraints.

CHAIRPERSON GANNON: So it's my understanding -- is this true? -- that the transmission vehicles, the lines, they're owned by a separate company than the generating.

MR. BIDEN: The wires are still owned by the utilities. Even in PJM, the transmission and distribution wires are still owned by the utilities that are regulated by the Public Utility Commission; however, PJM has control of those. They have seeded control of those wires, to a certain extent, to PJM.

If they need to take a transmission line down for service, they must okay that with PJM. They just can't do that unilaterally because we need to know what the market impacts of that are. So PJM has a controlling function, but they don't actually own the wires.

CHAIRPERSON GANNON: Is there any program -- we see there's a program to go into more generating capacity with natural gas. Is there also -- on the other side, is there any program to increase the lines so that we can get a better handle on the congestion, so to speak?

MR. BIDEN: PJM has a transmission capacity expansion plan to connect -- I don't remember the precise

number of megawatts. I think they have in the pipeline something like 25,000 megawatts of generating capacity. I think between 6- and 7,000 megawatts of that are under construction right now.

So we have a plan in place to connect that generating capacity to the grid. And I am assuming that part of that transmission expansion plan is to relieve the congestion, the added congestion that will come as a result of those plants coming on line.

CHAIRPERSON GANNON: I've been reading in the papers, in the media that California is now faced with another crisis which is a flip side of what they had in the summer, that they will have a surplus of energy but that they paid a high price for that.

And one of the arguments, or the reasons that I've seen for this situation is that energy can't be stored. So do you have a -- what's actually going on there, do you know? Can you give us a brief explanation of why they're in the predicament that they are?

And the next question is whether Pennsylvania can get into that type of situation.

MR. BIDEN: Well, the fact that I alluded to earlier, that most of the power is transacted through PJM via long-term agreements. And that was absent from the California market. To a very great degree, they were

heavily dependent on the volatile spot market.

And what happened when that market went short on capacity, prices went through the roof. A lot of people predicted it. A lot of people told, you know, the California government in various hearings that this was going to happen sooner or later.

When it did happen, those low energy prices -- the market worked very well. It produced very low, reasonably priced electricity in California for 2 years. And then the shortage happened, and then prices went through the roof.

What happened then was California realized their error in not allowing their utilities and not encouraging their utilities to enter into long-term contracts. So they went gangbusters in the long-term contracts. When? When these prices were extremely high.

And because current prices were extremely high, the expectation about future prices was extremely high. California bought a heck of a lot of power at very, very high contract prices as a result. And now with all the conservation efforts that have taken place in California, there's some concern as to whether or not they bought too much at too high a price. Does that explain it?

CHAIRPERSON GANNON: Yeah. That's what I thought had occurred. Is there any way -- can -- would

something like that -- could something like that happen in Pennsylvania where we would find ourselves paying a really high price for electricity that was being produced at a very low price simply because of these contractual arrangements?

MR. BIDEN: Well, in addition to the fact that we depend more on long-term agreements, long-term bilateral contracts by consenting parties limits the, the impact of the spot market volatility on the eventual average wholesale price.

But beyond that, PJM employs something called a capacity market, which sends a long-term price signal to generators that more capacity is necessary before a shortage develops. They have a requirement within PJM that if generating capacity reserves falls below a certain level -- and I believe it's 19 percent in PJM -- if it falls below that level, the load-serving entities have to -- if you serve 100 megawatts of load, you're required to have either 119 megawatts of generating capacity or have capacity credits that you've bought from a capacity owner to back up those sales.

So if the reserves fall below 19 percent, the price signals are sent to generators before a real bad shortage develops. And that is the superior construct in the PJM market that they did not have in California. They

had no long-term price signal to send to generators.

So generators had to get all of their revenues, they had to cover their variable costs and their fixed capital costs only from the energy market. So they had to raise prices to the extent that they did to satisfy their investors. And that's an important distinction between the 2 markets.

And now in California, the independent system operator is actually looking into developing some sort of a capacity market to try to head this off in the future.

CHAIRPERSON GANNON: It's my understanding that at the height of their crisis, the California capacity was like 2 or 3 percent. There was just very --

MR. BIDEN: It dropped down. And they actually set emergency procedures into effect. If it drops down below 6 percent, they start to send out the messages. And I forget at what point they start to curtail load.

CHAIRPERSON GANNON: Did the Pennsylvania generating companies, do they have, can they sell on the spot market in addition to their, their long term?

MR. BIDEN: Right.

CHAIRPERSON GANNON: In other words, could a Pennsylvania company on the spot market sell to California? Is that a capability?

MR. BIDEN: Not really. Theoretically, yes.

But practically, no. It's just too far away. You'd have to incur too many transmission markups on the way.

CHAIRPERSON GANNON: I heard a story during the California situation that there was a plant in Texas that could only generate power a few days a year and if it generated beyond that few days, they had to pay a severe penalty and that the California people got into agreement that they would generate over those days because electricity -- and that customers of California end up paying this penalty for this generation.

Is that -- I mean, I heard that and read about it. Do you know anything about that? And could that happen in Pennsylvania?

MR. BIDEN: That there was a plant in Texas that could only run a few days a year?

CHAIRPERSON GANNON: Because of -- you call them intervenors. I call them environmental, environmentalists.

MR. BIDEN: Well, I'm not sure where, where Texas is as with their environmental regulations. But if you operate, say, a coal or oil-fired power plant, you have, or natural gas-fired power plants, you have your emissions capped.

You have a physical cap that you cannot exceed unless you buy emission allowances, what are called

emission allowances from others who have overcontrolled their emissions. And that was one of the things that led to the tremendous run-up in prices in California.

They -- because they had to operate these older, inefficient units over a number of hours that they never expected, they ran out of these emission allowances. And allowances that in our market seldom get over $2,000 a ton went over $80,000 a ton in California, which meant they virtually were not obtainable anywhere.

So what happened was the power plants had to be shut down because they couldn't comply with their environmental permits.

CHAIRPERSON GANNON: Well, I mean, could they continue operating and just pay that $80,000?

MR. BIDEN: Some did. AES did. They got a real public relations black eye out of it. And they got a massive, tens of millions of dollars in fines from the California Department of Environmental Protection, or whatever it's called. I'm not sure.

CHAIRPERSON GANNON: And would those costs have been passed on to their customers?

MR. BIDEN: No, not in the deregulated market. Only to the extent that they can fetch the price in the wholesale market that would cover that fine.

CHAIRPERSON GANNON: So California's demanding

energy from a supplier. And because of the extreme demand, the supplier has to produce electricity and violates this cap on emissions to provide the electricity that California is demanding. And then California turns around and fines the supplier millions of dollars because of that?

MR. BIDEN: That's exactly what happened. Now, they did then, after the fact, realize the error of their way. And they started to relieve some of those environmental constraints. But that was only a temporary measure.

CHAIRPERSON GANNON: And that situation would have been brought about by these intervenors getting into the act?

MR. BIDEN: Yeah.

CHAIRPERSON GANNON: Thank you.

MR. BIDEN: Thank you.

CHAIRPERSON GANNON: Our next witness is Cynthia Taylor, Manager of Customer Relations and Training, PJM Interconnection. Thank you, Ms. Taylor. You may begin when you're ready.

MS. TAYLOR: Thank you. Good morning. My name is Cynthia Taylor. I'm, as you said, Manager of Customer Relations and Training. But I actually am an engineer. There was some discussion about engineers earlier. I've been at PJM for over 20 years. I've been

involved in operation settlements and information systems.

I appreciate the invitation to participate in the hearing and would like to thank you for the opportunity to speak with you today. PJM began operations as a power pool 70 years ago. It transitioned to an independent system operator in 1998.

And currently, we have the status of a provisional regional transmission organization, or RTO. We're operating the world's largest competitive wholesale electricity market and one of North America's largest power grids. We currently coordinate a pooled generating capacity of more than 59,000 megawatts.

And we operate a wholesale electricity market with more than 200 market buyers, sellers, and traders of electricity. The customer load being served encompasses portions of 5 states and the District of Columbia. But energy has been brought to the region from as far as Florida, Canada, and the Midwest.

PJM's mission is to maintain the safety, adequacy, reliability, and security of the power system and to create and operate robust, competitive, and nondiscriminatory electric power markets. PJM's mission supports the goals the Pennsylvania General Assembly set forth to benefit consumers.

Our operations have been providing a reliable

source of power, providing the ability for consumers to choose their suppliers and make consumption decisions, and facilitating competitive prices for electricity. These are the focus of the hearing today. And I would like briefly to outline processes in place currently and future trends that can help support a fair price for energy in the future.

One of the simplest ways to boil down what PJM does and what it can help consumers and how we can affect prices is what we've seen in this region is that thriving, competitive wholesale electricity markets support all of these benefits that we're trying to achieve for consumers.

What I'd like to do is refer to the attachments. I unfortunately do not have them electronically. And I can assure you the PJM systems function much better than my personal laptop does. So if you could refer to the attachments. I believe you have color copies of them.

I'd like to describe a little bit about PJM's role and the function and follow on some of the testimony that you heard earlier. Beginning with Attachment A, you certainly can see from the diagram something very similar to what Mr. Rosenthal had presented where generally there's fuel-supplying generators which are transmitting the power over the bulk power transmission system, the large tower

lines that you see.

Generally, that will then connect to some sort of transformer which will lower the voltage of the lines and eventually will end up in homes and industries across the state. PJM's role -- and PJM, first of all, does not own any of those facilities.

PJM -- the owners of the transmission system generally still the utilities or former utilities, vertically integrated utilities. Generation now owned by many different parties. In some cases, the utilities themselves. The distribution system still the provision of the utilities, which you're all familiar with.

PJM has basically operated the system, as you said, for 70 years, very differently than what you saw in California and other parts of the country. We've already had a regional motto in place for the sharing of energy during emergency and during economic conditions.

We also have the technology infrastructure and communications in place. So as PJM transitioned to this new world of deregulation, there was 70 years of history in place already and the technology and business infrastructure for that to occur.

In very, very simple form, what we're doing every day is we're getting the bids from all of the generators, many, many transactions that are brought to our

border from our members. We're using a standard scientific algorithm to select basically the lowest total production dollars cost equipment to serve the projected load for the coming day.

As we make those decisions, we'll inform those particular resources or transactions that we have selected them. And we'll basically then schedule those resources to be on line to meet the load in the coming day. As we move into the operational day, anything can happen. And we prepare and plan for, statistically, the probable events that will occur every day, like loss of equipment or heavy use of transmission lines.

As we move into the day, all the generators operate as we requested. We certainly have communications with them. And if there are any changes, if the weather does not turn out to be the way we expected, the customer usage patterns will most likely be very different.

We might lose a generator. There might be a problem on a transmission line. Whatever happens, our operators will adjust to that second by second. We always ensure that there's enough reserves on the system to prepare for the statistic problems that we see on the system.

So as we move through the day, we'll actually record that. That will be a financial settlement. So

every day, that process is going on, whether it's normal economics or normal emergency procedures. So as I said, also what you heard earlier, too, questions about where we fit into the rest of the country, if you look in the upper left-hand corner of Attachment A, you'll see a model of the entire nation.

There are actually 3 physical interconnections. And by that, we mean that all of the entities in those areas are connected to each other and energy flows across power lines continuously. It also means that there are some very, it's very difficult to move energy between those areas.

PJM Pennsylvania is located in the eastern interconnection, contains the area from Florida up into Canada into the Rockies. There are really no commercial ties to move energy across the Rockies. California is part of the western system, considered isolated from the eastern system.

And the state of Texas is isolated from both systems. These 3 systems operate independent of each other. But within each system, there is very, very close coordination between all the parties.

Moving on to Attachment B, a little bit about PJM. As we had talked about giving you some numbers and size, PJM, as I said, one of the largest in the nation

right now for the electric grid. Some are about 60,000 megawatts.

As of January 2002, we will be moving towards what's called the PJM West concept where Allegheny Power System will become part of PJM with the market, one market covering both systems, with one transmission tariff covering both systems, and with coordinated operations between the 2.

The 2 systems together will then have a capacity of over 66,000 megawatts. Again, one of the largest and approaching one of the largest in the world right now.

Moving on to Attachment C to tell you a little bit more about the markets and how they support reliability. As we had talked about and was mentioned earlier, electricity is really a second-by-second commodity. No one can tell also when someone might turn on a light switch and when a generator might be lost.

So someone has to be continually maintaining the balance between the resources that are actually operating and between the load or the demand that customers use. PJM is the entity that's doing that. And as we talked about, it had been going on for 70 years.

What's different now is that there are markets for many of those services, and the markets allow bidders

to make offers and allow buyers to make offers to buy. And as those markets clear, all of the prices for those are very public. They're posted every 5 minutes.

They're also posted at 2,000 locations across our systems. And as we said, it includes Pennsylvania and 5 other states. Those signals send very real signals to the market. Those public numbers and pieces of information send short-term signals.

What we have seen, for example, during emergencies since we opened our markets, since it's very well-known what customer demand looks like -- that's public -- since it's very well-known what energy crises are across the system, we have a network of basically hundreds of marketers throughout the eastern interconnection that will look for energy, seeing that prices are rising in this region and will bring resources, will bring energy to the borders of Pennsylvania and the border of the region.

We've generally been seeing somewhere in the neighborhood of 5- or 6,000 megawatts brought to this region during emergencies. That energy is sufficient that we can carry very, very high levels of customer load, all-time peak levels, and not move into our emergency procedures that impact customers at all.

So we've been, for the most part, been able to avoid things like voltage reductions or brownouts and

certainly the worst situation, which is a controlled program of power outages or blackouts.

Generally, the loads we've been carrying are very high. But we've not needed to resort to that because of the market activity. On some of our most extreme days -- this last August was a case in point -- as the customer demand rises, prices will rise.

But the market influences are so great that often, so much energy is brought to the region and prices will fall during some of the most extreme times of demand. We actually see this pattern again and again, especially in the summertime on very hot days.

So the market has been working very well to help support reliability. As we said, some of the pricing signals are public. Also, the participants have the ability to transact electronically over the Internet. So as we talked about second-by-second changes, they're monitoring the conditions second by second, minute by minute.

They can make decisions and then sell into the market very, very quickly using a series of Internet tools. So the market is able to move very fast and able to keep pace with what's actually going on in the real-time system.

You got quite a bit of information before. I have -- Attachment D just talks about, reiterating what you

had said, what some of the folks testifying earlier had said. Basically, you can see the split of fuels across our system.

We keep talking about a regional solution and a thriving wholesale market. But one of the ways you make that work is that there are many buyers and sellers. And by having a very large region, you're able to leverage the diversity of fuel types, of generating unit design, and of customer use patterns.

So right now, these numbers explain the information from PJM in the aggregate. But certainly, Pennsylvania is part of this. So you get to enjoy this quite diversity of fuel type. And as you can see, natural gas is right now only about 18 percent of PJM overall.

The majority of that 18 percent is dual fuel. So they also have an oil backup, and they can switch to a different fuel. So again, now that picture changes. We'll talk a little bit about new generation coming on line. We expect that percentage to go up but still will be certainly not near the majority of generation for all of our equipment.

As also was discussed earlier, you heard information from Mr. Biden about the percentage of transactions that flow through our spot market. And those are short term or long term or really any term the 2

parties have in mind.

You can see from our 2000 numbers that predominantly the long and short term make up the majority of the market. I do want to mention we have a bid price cap of $1,000 per megawatt. That has been in place since basically our transition from a power pool.

In 4 years of operation, we have only hit that price cap or that big cap 9 hours. So even though we have a cap, we're not, our market is functioning very different than California's. Certainly, everyone saw on the news the caps and how often the market was hitting that.

Generally, basically 70 percent of the time, greater than 70 percent of the time, the prices in our market are $30 or less. So even though we have high caps, because of the thriving market and because of the many buyers and sellers, we are not hitting that cap at all. And competition is keeping those prices low.

Very often, we will have bids coming into us at zero cost. Those that are making the bids just want to operate. So they're actually bidding in at zero cost. So we are definitely seeing, definitely seeing competitive action in the bidding process.

I want to jump a little bit and talk about long-term signals and get to the generation. In Attachment F, we talked about the regional planning process. PJM is,

is basically the coordinator of the expansion planning, the adequacy evaluation of the transmission grid.

The process takes into account how the system operates now, the requirements, new generation that's coming on line, environmental concerns, siting concerns. All of that, it gets folded into the plan. And we develop a plan for making sure the system is reliable, the transmission grid is adequate and that any potential problem areas are identified.

Right now, there is over $700 million of upgrades planned to the PJM grid system. Many of those are just to improve system operations. Many of them are to interconnect new generation. And upgrades that are required is required as a result of interconnection of that new generation. So there is quite a bit of investment planned in the transmission grid right now.

Moving on to Attachment G, we're talking about the generation interconnection process. This is a sample, actually an overview of the process itself. As the generator would move through this process, repeatable process basically for all of the generators, there are milestones. There are financial obligations that they incur as they move through the process.

Right now, we have over 60,000 megawatts of new generation that wants to site in this region. And as

we said, right now, we're peaking somewhere over 50,000, 60,000 megawatts. So that's a considerable amount of generation that wants to come to the region.

No one believes that all of that would go to commercial operation. Most likely, a third of that will actually get built and operate. But that in itself would be a significant addition to the region. And as we stated earlier, the vast majority of that generation is natural gas.

Attachment H shows by year when that planned generation is due to come on line. Each one of those bars represents an addition to the existing capacity on the system. And as we said, we don't expect all of that to come on line. We have seen about, about 1,100 megawatts come on line this year. We expect about 2,000 to be on line by year-end.

Attachment I shows some of the locations of that new generation. A good discussion about this also earlier. There was some questions about transmission congestion. The 5-minute energy prices that were posted -- and we are posting those, as we said, about 2,000 locations across the system -- those that are interested in building generation basically can see that publicly where the prices are very high, see consistently where the prices are very high.

And if you spoke to our planners, they will mention that if you look where there might be a water flow, some sort of water supply, some sort of existing transmission right of way, overlay that where prices are very high and that is where the new generators wish to site.

And that's what the market model, that's what the market rules were designed to incent. The idea being that prices are high because of transmission congestion. If everyone can see where those prices are, someone puts a new generator there, that then helps to reduce those prices.

One other comment that I can make with the grid is transmission congestion can be solved 2 ways: You can enhance the transmission grid, or you can site generation locally that would serve the load that that congested transmission line is serving. Either of those models will solve the problem.

PJM does not prescribe the correct model. We only prescribe transmission upgrades when we see a problem with the reliability of the system. But the economic decisions, the economic needs can be solved in either way. And what you're seeing is quite a growth of generation, as we said, peaking up on those public high prices, if you will, and those predominantly high prices.

Part of the reason we don't expect all the generation to get built is once a new generator comes on line, in theory, that should lower prices. It may make that site less attractive for some of those other generators in later years.

So our feeling is, generally, a lot of that equipment that's due to come on line in some of the further years out most likely will not be built as the new generators come on line.

And lastly, I guess the thought I could leave you with in Attachment J, that's really a summary. The bottom line -- and I know all of you don't have a color copy -- the bottom line is our forecasted load. The straight line second from the bottom is our load plus that reserve requirement that we were speaking of earlier.

The lines above it represent all the new generation that we have scheduled in the queues and the ones that we expect to actually be built. Looking at any one of those lines, you can see that we feel there's sufficient generation to ensure reliability with enough margin for a robust competitive market.

And as we said, what we've seen, the robust competitive market is what provides those competitive prices at the wholesale level, which then allows the competitive prices to exist at the retail level.

Thank you again for the opportunity to speak with you today.

CHAIRPERSON GANNON: Representative Gabig.

REPRESENTATIVE GABIG: Thank you, Mr. Chairman. On your charts, planned new generation towards the back, both the graph and the dots that show -- when you use the term generator, you're not limiting that to a power plant, say? Is that a broader term when you say, you know, generator; or are you talking about power plants?

MS. TAYLOR: Generally power plants, yes. That could be a combustion turbine, basically jet engines mounted on the ground. That could be some sort of combined cycle plan as part of a factory. That could be a traditional plan.

As I said, you heard quite a bit earlier about the, kind of the plants of choice and the size of the plants of choice. But many times, they're natural gas plants.

REPRESENTATIVE GABIG: So the big power plants that we hear about that generate energy that come into people's homes would be a subset of these?

MS. TAYLOR: Exactly. Exactly. Generally, I guess in our system, people might call those base load, like the large nuclear plants, the large coal-fired plants. In the western part of the state, you probably heard of

Keystone Common Law, called the mammoth coal plants, very, very close to coal plants, generally about 1,000 megawatts or so a piece, generally very, very large units.

Combustion turbines can be as small as 2 megawatts a piece. But, you know, the footprint's smaller. Environmentally, they might be easier to get on line. So you generally are seeing many more smaller units, small to mid range rather than the very large sites like Keystone Common Law or Limerick Nuclear.

REPRESENTATIVE GABIG: The small ones, are they being used primarily for industrial/commercial purposes; or are they also being used for residential?

MS. TAYLOR: Many of them -- the ones that we have in these huge, want to connect directly to the grid, which means they want to sell into the market. Now, that might be -- their output might be contracted by one of an existing distribution company like PECO, Enron, you know, Green Mountain, who's ever serving retail customers.

They may be under contract, or they may just want to sell into the spot market or engage in long-term transactions. So there can be certainly a multiple of choices and multiple activities for them.

REPRESENTATIVE GABIG: If you answered this during your testimony, just tell me; and I'll review that. What were the color-coded queues? I mean, what does queue

mean in the color codes to these?

MS. TAYLOR: Okay. What's happened is with, as we said, the public signals, you know, public prices that are available, there has been such a great interest that we have gotten many hundreds of requests to site new generators.

But to site every new generator, you need to evaluate the impact on the existing system. You need to make sure that it's feasible for that generator to interconnect at the same time. But you also don't want to look at them in a vacuum. You need to see what's going on.

So what we did is we basically processed requests in a certain time period, maybe 3 months. All the requests that we received in 3 months, we'll look at all of those in one cluster and evaluate their impact to the system. Then we'll take a look at the next set and the next set.

So that's what the queues represent, basically a clustering of projects by the date that they were offered to PJM and kind of delineate the evaluation that we have performed for that group of proposed plans.

REPRESENTATIVE GABIG: So does the A indicate --

MS. TAYLOR: That was the first set.

REPRESENTATIVE GABIG: First one?

MS. TAYLOR: Yeah, those are the ones farthest along. Many of those are under construction right now.

REPRESENTATIVE GABIG: Okay. Thank you very much.

CHAIRPERSON GANNON: Representative Hennessey.

REPRESENTATIVE HENNESSEY: Thank you, Mr. Chairman. Ms. Taylor, you had indicated that PJM company has $700 million planned investment in transmission in your system.

MS. TAYLOR: That would be our members, yes.

REPRESENTATIVE HENNESSEY: Okay. How much of that deals with the relief of this congestion that Mr. Biden had spoken about as compared to -- I guess what I'm wondering is it seems to me that PJM has the ability, if it wishes to do so, to relieve that congestion and thereby, in a sense, direct the creation of power plants, the building of power plants elsewhere rather than -- if you take a look at whichever exhibit it was with the dots -- all in the very congested areas of the eastern part of the state.

I realize that's where a lot of the residential energy is used. But, you know, it seems to me it also creates an awful lot of angst among the population, saying, you know, I mean, if you live near the Limerick Nuclear Power Plant, as I do, people say enough is enough and why are we looking at 2 or 3 or 4 other plants close

by.

And the answer generally becomes, Well, that's where PJM has its grid. And it seems to me that PJM has the ability to take some of that $700 million and invest it so that its grid, in a sense, expands and the pressure is relieved from the populous eastern part of the state.

But I don't, I don't hear you saying that you're going to do that. Is it up to your members?

MS. TAYLOR: You know, the issue that you raised, I'm thinking in my mind there's probably about 4 or 5 complex issues that relate to it. You're right. We do not own the facilities. So we cannot, we cannot force construction. We're the watchdogs for reliability.

If our planning process identifies a critical deficiency in the system, we will notify the owner of those facilities; and then they are required basically to build. And normally, they are doing that. I mean, you know, that's basically your transmission owners. They have every incentive in making sure the system's reliable.

REPRESENTATIVE HENNESSEY: Well, if there's congestion and it's identifiable and you can't move cheaper power to where we need it, then it would seem to me that that is a problem and that PJM can identify that and that its members should respond to that.

MS. TAYLOR: The problem, I think, throughout

the nation that may help put this in some perspective is generally there is -- you know, transmission right now is rate capped, tariff capped by the federal government. There is not the incentives to build transmission, since it's a fixed rate of return, the way that you would see for a new generator, which are basically unregulated.

All of the generators in PJM have the right to sell at market-based rates. All the transmission at PJM is regulated by the FERC using a pro forma tariff, which is on file with FERC. So you do not see generally the incentives to build transmission paralleled with the way you see the incentives to build generation. Additionally, there is not --

REPRESENTATIVE HENNESSEY: Let me interrupt you, if I can. I thought you said earlier that PJM identifies the need and then its members are required to address it. And now I think I just heard you say that they're not going to address it unless they can find a way to make it, to do it more profitably.

So I mean, is there a requirement that they build to suit the need; or is it simply that you guys oversee and maybe referee a free market-based system?

MS. TAYLOR: The best way to explain that is possibly divide the usage of the system by emergency and deliverability of load versus economic opportunity. And

the problems that we identified are for reliable and emergency operations of the grid.

Congestion on the lines generally is an economic situation, which has not been the domain or not been one of the roles of PJM in the past. There is, there is a request by FERC to add that to our transmission-enhanced expansion planning process. And there is developments under way, meetings to work through that right now.

But traditionally, as we said, we've been the reliability watchdogs. We really only have kind of the authority to identify problems related to reliability, not economics.

REPRESENTATIVE HENNESSEY: Okay. But if there's a villain here as far as setting the caps, it's FERC, F-E-R-C?

MS. TAYLOR: FERC regulates the transmission tariffs, yes. Yes.

REPRESENTATIVE HENNESSEY: Thank you. Thank you, Mr. Chairman.

CHAIRPERSON GANNON: Representative Birmelin.

REPRESENTATIVE BIRMELIN: Thank you. Ms. Taylor, I just have a couple of short, quick questions. And I guess like many others who are seated here, we're looking at the districts that we represent and what these

little dots mean in our districts.

And I come from Wayne County, which is in the northeast corner of the state. And I know that one of those dots is represented by a proposed windmill farm that is very close to my district. And at some point, it's also in my district.

And I see other dots here that are real close, in, for instance, Lackawanna County, which borders me. And I don't know what they represent. How does one find out what these proposals are? I mean, who are they beginning this process with so that we could find out who they are and what they intend to do?

MS. TAYLOR: That actually is all on our website, with the exception of the company that owns the plant. All of these queues -- you can go to our website. It's www.PJM.com. And if you look under Generation Interconnection Process, you can look at each queue.

And it gives you the name of each, or gives you basically the location of every facility, the type of output, the type of plant it is, where it is in the construction process, where it is in this interconnection process, basically everything except the owners, any information that the owner has requested be kept confidential for market strategy reasons.

But you basically can see every one of these

by queue. There are also location maps by county of where the generation is going. So that's all public record.

REPRESENTATIVE BIRMELIN: One other question. In this particular instance that I'm referring to, this windmill farm is a British-based organization and not from the United States. They apparently did some research and found out that a certain mountain chain had a, was a good location for a windmill farm.

And the only restriction that I've been reading about in the paper to doing what they wanted to do, which is install 250-foot-high towers with 3-pronged blades on them, is that they must meet whatever local requirements there are for soil erosion and things like that for the access road.

Is there no restrictions other than those sorts of things to any of these nuclear or -- excuse me -- these generating plants; or is it because this is a windmill farm?

MS. TAYLOR: We do not, we do not get involved in the actual siting and permitting; but our interconnection process is tied to that. And frequently, there are environmental permits, including clean, you know, air requirements or site preparation, those types of permits that need to be obtained.

But we are not -- we do not issue those.

We're not part of that siting process other than generally the sites need to demonstrate that they've achieved certain milestones before they can continue through for the interconnection process.

REPRESENTATIVE BIRMELIN: So the power that they generate they are assured the market for; is that correct?

MS. TAYLOR: No one can ever be assured a market but --

REPRESENTATIVE BIRMELIN: It sounded to me when they were talking to me about it that, you know, if we build these windmills, we generate this electricity, that towers will have to be accepted and we have to access to those who want to buy power from us, which I guess in their case is called this green power or whatever.

It's got a higher rate of cost to those who use it. But there are people who specifically request it. And so they think there is a market for people who want wind-generated electricity and who will pay more for it. But they -- I sort of got the impression from them that they felt that they were assured that there was a buyer for that and that it had to be absorbed by whatever, grid or whatever that they were being assigned to.

MS. TAYLOR: There are -- I guess the best way to describe that, we talked about that new generation. And

you also heard about the reliability assurance program, the capacity program. The idea is that, in general, much of that new generation, even though it's the independent or merchant generation like that, may be very quickly subscribed or contracted with those that serve load for long-term contracts.

So I can't speculate. But possibly, they may be entering into some sort of long-term contract with someone who does supply load.

REPRESENTATIVE BIRMELIN: My last question is, Where is that portion of the generating market going to? I mean, is this a growing trend that people want things that are produced by hydroelectric or windmills or whatever, the so-called alternative sources to traditional fuels like gas and oil?

I mean, is it growing; or is it always just going to be that small portion of the market share?

MS. TAYLOR: That's a great question. And I'm thinking. I might not be able to speculate on consumer patterns. But what I am familiar with is that many of the states -- and frequently, you know, you hear some discussions where the states themselves are adopting some sort of portfolio levels for suppliers where they may expect a certain percentage of green power, you know, a certain percentage of generation in a particular state to

be supplied by that.

So if you see more of that going on, there certainly will be more of a demand for that. But as we said, consumers, I'm not sure we can speculate what the outcome or what their ultimate demands are going to be.

REPRESENTATIVE BIRMELIN: I guess my question is, In the area in which you are involved in -- which is, you said, 5 states and portions of the District of Columbia -- have you seen an increase in the past 10 years of this so-called green power alternative provision?

MS. TAYLOR: There are definitely -- I mean, the wind farm itself is a case in point. Generally, there, I believe there might have been 1 or 2 in the state before that, which aren't functioning right now, one out in Reading, which you can drive past and see it not functioning.

So certainly, that's a case in point where you are seeing an increase in those types of plants, those types of projects. Also, what everyone keeps mentioning, the fact that the new construction is generally natural gas, which starts out at a much cleaner level than, you know, what you've see before.

The new efficient -- the plants themselves are much more efficient and much cleaner. So overall, you're seeing, you're seeing a trend in all types of generating

units, all types of designs to be cleaner, smaller, quieter, more efficient.

So I think, you know, you're just seeing that trend everywhere and probably seeing it a little bit more dramatically with the windmills.

REPRESENTATIVE BIRMELIN: Thank you. Thank you, Mr. Chairman.

CHAIRPERSON GANNON: Chairman Blaum.

CHAIRPERSON BLAUM: Thank you, Mr. Chairman. Ms. Taylor, we're here as a result of House Resolution 100 because of price fluctuations that astonished and shocked the people of this Commonwealth. As I pore through the testimony and experienced that situation as we all did, we begin to understand the confluence of circumstances which helped that all happen.

I think the General Assembly and the people of Pennsylvania would hope that the industry would be smart enough to prepare for that, which I've not heard this morning. What could -- because, again, that may be our recommendation to the General Assembly.

What could the electric, gas, oil, and so on have done to prepare for that -- because it will happen again -- to prepare for that emergency in a way that could prevent prices from going through the roof, prices that people and our businesses and our employers are not

prepared for?

Again, the idea that our confidence in all of your expertise is this shouldn't happen, that somebody should have been better prepared given all the current circumstances. We're happy to see all, again, additional generators coming on line. That's not going to happen for a number of years.

So what under the current circumstances -- and these are the circumstances of which we're going to live for the next several years. How can you, we better prepare?

MS. TAYLOR: I think -- the best way I would answer that is I think what's already been done is, within Pennsylvania and with the remainder of the states in PJM, was the commissions retain the rate caps to the retail customers, if you will, with the idea that it was going to take a while for the markets to mature, it was going to take a while for the market signals to get out, be received, and incent that new generation.

Every day, customer demand rises and falls. And every day, long before deregulation prices -- which happen to be cost-based on our system -- would rise during the day with that demand and it would fall at the end of the day. Consumers did not see that. Consumers still don't see that.

So even the prices we've been speaking of do not directly translate to consumers. Some large industrials have prices keyed to our clearing prices, which are public. So some of them are seeing the effects of that price.

But I'd say the best thing that's happened so far is to allow the markets to mature, allow the incentives to get out there, provide those additional resources to get the market functioning while truly competitive so that when the rate caps come off, the situation is much different than what you saw in the western part of the country.

CHAIRPERSON BLAUM: So it's been solved? We're not going to have the huge spike in prices that we saw last year?

MS. TAYLOR: The engineer won't let me say no because anything could happen on the system. You know, a case in point -- this happened before -- a barge crashes into a major transmission line in the Delaware River. That line's out of service. Generation now can't get to some load areas. That can cause prices to increase.

Or a flaw is found in a particular unit design. All those units need to go off line. That can cause prices -- what PJM can do and what our market rules are designed to do is make sure the prices are fair, the prices are competitive no matter what happens.

But as I said, the engineer won't let me guarantee that you'll always see low prices.

CHAIRPERSON BLAUM: And I don't think you should say that. Never say never here. But having said that, never say never, to the extent that we possibly can, we would not want that to happen again. The outrage was, as you know -- your phone rang, too. But again, never say never.

Do you believe that the corrections have been made that would keep prices stable, given the confluence of circumstances that occurred last year, so that we won't see these astronomical prices?

MS. TAYLOR: Right. We've been, we've been seeing historically numbers -- average price in '99, very, very hot summer, about $28.32. Average price in 2000, a lot more moderate summer, average price across the board was about $28.14. This year, we might be tracking somewhere closer to 30s.

Everyone remembers the heat wave in August. So no matter what has been happening, the prices seem to be tracking very stable within a very small tolerance. So we have no reason not to expect that to continue, especially with the new generation coming on line.

Load growth in this region is generally under 2 percent, been tracking very, very steadily at that level

for many years. There are some areas, though, that are experiencing load growth much above that. But again, that's where a lot of that new generation wants to site.

So the signals that we're seeing is we see nothing that would expect us, or nothing that would indicate that something very different is going to happen than what's been happening in the past.

CHAIRPERSON BLAUM: So the industry today is much better prepared for those circumstances all arriving at the same time to keep prices stable than it was a year, 2, 3 ago?

MS. TAYLOR: Right. I think there's certainly been many lessons learned. I think we have been lucky in this region. The stakeholders wanted us to go open on markets in a very controlled process. It's probably a good point to make. California opened up with full markets day 1.

In the PJM region, we started out with a wholesale market, have been adding other markets very slowly with the idea that you do not want a new market to negatively impact one that's already functioning well. So we have 6 markets open right now, plans to open future ones.

But again, always make sure there's a very thorough analysis done, that there's no negative impacts to

the, to the very critical markets like the wholesale energy market.

CHAIRPERSON BLAUM: Thanks very much. Thanks, Mr. Chairman.

CHAIRPERSON GANNON: Thank you. Representative Browne.

REPRESENTATIVE BROWNE: Thank you, Mr. Chairman. Thank you, Ms. Taylor, for your testimony. Just one quick question, actually a follow-up on Representative Gabig's comments. In your grid on planned new generation locations, you had mentioned that the different queues relate to the different planning stages of development.

MS. TAYLOR: Yes.

REPRESENTATIVE BROWNE: Is there any significant differences that are government imposed that would make Pennsylvania's planning process longer than new generation development in New Jersey or surrounding states that you know of?

MS. TAYLOR: None that I'm aware of.

REPRESENTATIVE BROWNE: So consumer prices won't be impacted by our process to, to produce new generation? We're about the same as other states?

MS. TAYLOR: Yeah. As I said, I'm certainly not aware of any differences between states.

REPRESENTATIVE BROWNE: Thank you, Mr.

Chairman.

CHAIRPERSON GANNON: Thank you, Representative Browne. It seems to me that, it seems to me that the Pennsylvania General Assembly is a lot smarter than the California General Assembly related to deregulation. But it's occurred to me with respect to transmission -- and here's why -- maybe you have an answer to this.

But I'm a big generator. I generate a lot of power. This is a hypothetical. And now it's to my benefit that the prices on transmission be capped because there was a comment made earlier on that this causes this congestion, which, which kind of restricts the smaller operators from getting into play.

So I'm essentially controlling competition by, by not advocating or not seeking to have transmission prices, the cap taken off transmission costs because people that own the transmission lines don't see a good enough return on investment.

So they're not going to build more transmission lines, which then results in, during high demand times, that there is congestion, which keeps the smaller players out of the system, which means I won't see a lot of small generators coming into, on line because, once again, they're not going to make any money.

Now, they can charge the same rate or less

than I can; and they can compete. But because the transmission line costs are capped, I've essentially, through that vehicle, excluded competition. Is that fair to say?

And if it is, what is happening out there in your industry to remove those caps so that some of these smaller players like those windmills in Representative Birmelin's district can become real players and compete with other generators?

MS. TAYLOR: What had happened, I guess it was FERC order 889 actually required that transmission owners open up their transmission systems. So one point to make as we're having this discussion, everyone, even those that built the transmission, if you will, or want to use their own transmission, has to buy the service through the same mechanism that the small generator would.

So FERC wanted to create a process where there would be no barriers in entries to small generators coming on or to move energy the whole way across the northeast. That was their plan. Everyone has the same access, if you will.

The way they mandated that is the transmission services sold over the Internet, and they prescribed what these tools look like. PJM is the provider for the transmission owners in this area. But there are similar

sites all across the country, for every transmission system, if you will, across the country.

So that service is sold. There are very rigid requirements as to how far in advance you can buy service, what the definitions of service look like. And all parties are required to purchase their service using that mechanism.

CHAIRPERSON GANNON: That's all well and good. But the thrust of my, my hypothetical was that, you know, even though they come up with regulations that say, Well, we're going to mandate that everybody has access; but we're not going to take a cap off the amount that you can charge for that access.

So essentially, what that does is limits access because there's only a limited number of transmission lines. And because the way the power flows from west to east, it creates this congestion. And as a large generator who doesn't really want to see a lot of competition, I'm saying do whatever you want.

You can have mandates, regulations saying equal access and all these; but don't take those caps off those rates because that's the key to opening up that market and lowering prices because a lot more people can come in. You'll see a lot more transmission capacity constructed. That's what my point is, and that's what I

wanted your response on.

MS. TAYLOR: You're very correct in what you're saying. It's a limited resource. We have a very mechanical process that's a public process how we calculate how much energy can move through the line on a given hour of every day. And then that's basically what's sold.

The mechanism, the mechanism that allows there to be some, you know, something going on over and above that is the, is the energy pricing methodology we have, locational marginal price. And to boil it down into one, you know, sentence, if you will, if there's no congestion anywhere on the system, anyone who sells energy receives the same price. Anyone who buys energy is going to pay the same price.

If there's congestion, prices will start to rise in those areas that are using the congested lines and nowhere else on the system. So those prices are high, but they're only going to be high to those that are using those congested lines.

Those who are using those congested lines have many decisions. They can decide that they don't want to pay that extra premium, and they can curtail their transaction. Or they can buy through it, agree to pay the price differential.

There's also a hedging mechanism, a financial

insurance policy, if you will, that they can purchase ahead of time to hedge themselves against those costs. So even though that's a limited facility, those other options allow there to be greater use of the line and, as you said, somewhat more equitable basis or more opportunities for others to use the lines.

That hedging mechanism is actually full market, and there's an auction for that product. So there are other mechanisms in, you know, future months planned to try to make that more of a possibility absent the growth or, you know, increase in the transmission capability.

CHAIRPERSON GANNON: Well, it seems to me that the, on that map you have of the new generating stations, most of them are being put in areas where the price of electricity is higher.

MS. TAYLOR: Yes.

CHAIRPERSON GANNON: So these are higher demand areas.

MS. TAYLOR: Right. And generally at the terminating end of a lot of that congestion.

CHAIRPERSON GANNON: And then getting into, following up a little bit on what Representative Blaum said, you know, we're looking at a potential for market conditions where consumers and businesses in our, in the state, in our district see high price spikes that they

didn't anticipate.

It seems to me that this transmission problem, this congestion is really what leads to these spikes and high charges. Then you have the smaller players who maybe would want to get into the market and sell their electricity perhaps at a lesser price.

They simply can't do it because of the congestion, even though they're providing power into those areas where the demand is highest and the price potentially is higher. You said that they have an option. They can just say, Well, we're not going to, even though the price is higher, the market is really, you know, it's great, we're just not going to get into it because the cost of transmission now has become too much for us to bear.

Now, is there anything that the Pennsylvania Legislature could do with respect to these caps that we placed on transmissions so that we could encourage better return on investment, better transmission, more transmission lines in those areas where the prices are higher and see more players come into the arena in Pennsylvania; or is that totally under the control of the federal government?

MS. TAYLOR: The actual tariff prices are right now under the control of the government because they all are intrastate. As we talked about, the new

generators, though, once you build that new generator, that overuse or that congestion of that line then most likely will not happen because that load now can be served by one of those new generators.

So some of the congestion may relieve itself once those generators get on line. You're now serving the load locally, and you don't need to use that particular line to get the energy there.

CHAIRPERSON GANNON: I'm just sensing a real reluctance on the part of the industry to take the caps off of these transmission prices. And I don't know what's happening in Washington. But it's something we'll look into because I would expect that, you know, a business would be down there in an era of deregulation and pounding on the door of Congress saying, you know, take the caps off these transmission prices so we can start building more transmission lines and get power out there.

But it seems that we're seeing just the opposite. They're very much satisfied with these caps, which lead to some of the problems that you've alluded to.

MS. TAYLOR: One comment that you certainly hear from developers is to construct a new transmission line is almost impossible. Now, again, these are not my words. They're not the words of my company. But certainly, what you hear, that siting a new transmission

line is very difficult.

There are very few technologies that enable you to upgrade existing transmission right of way and get significant increases in capability. There are some. And certainly, many of our members are experimenting with those in projects.

But generally, I've heard, I've heard participants in our markets say you can get a generator on line in 18 months and it might take you 20 years for a transmission line.

CHAIRPERSON GANNON: Just one question. It's a quick question, but I don't know if the answer is going to be quick. But you talked about the cost. And I think you said that it's around $30 a megawatt, sometimes 28.

MS. TAYLOR: Some are 28.

CHAIRPERSON GANNON: And go up to $1,000. That's the bid cap.

MS. TAYLOR: Yes.

CHAIRPERSON GANNON: And that's occurred.

MS. TAYLOR: Nine hours.

CHAIRPERSON GANNON: Maybe 9 hours, but it has occurred.

MS. TAYLOR: In 4 years, right.

CHAIRPERSON GANNON: But then you also said that some people are bidding at zero --

MS. TAYLOR: Yes.

CHAIRPERSON GANNON: -- simply to stay in the market. I'm assuming that's at low demand time when you have that, that --

MS. TAYLOR: No.

CHAIRPERSON GANNON: -- somebody that just wants to stay in business?

MS. TAYLOR: Right.

CHAIRPERSON GANNON: I don't know how they stay in business by bidding zero. But what factors go into determining the price or the cost of electricity when, you know, I see a generating station, it seems everything is pretty much fixed in place, can only produce so much?

I guess they have 2 generators. They can turn one off and turn it back on. But I don't think the cost in terms of doing that is that excessive. So what determines that price that makes it go from $30 to $1,000? Is it purely demand, or are there other factors that come into that?

MS. TAYLOR: What -- and maybe also a point on the zero cost bid. Our market clears, as we said. So whatever the clearing price is, anyone who's bid and we've selected to operate will receive that clearing price. Anyone who wants to buy is going to pay. Anyone who wants to sell is receiving that.

So someone who bids in at zero will be compensated as the price increases throughout the day. So they'll be getting compensated whatever the clearing price is, which, you know, obviously is above zero. So that's how, you know -- it might be they want to run a unit, they want to keep it running for a while, they're going to take it out of maintenance, for whatever reason.

CHAIRPERSON GANNON: So they don't really know what the price is? They just pay --

MS. TAYLOR: Right.

CHAIRPERSON GANNON: This 5-minute segment, that's what they get?

MS. TAYLOR: Right. But there's also 4 years' worth of energy data, energy pricing data that's public. So many of those that are participating in our market thoroughly analyze that data. You know, as we said, it's public. They have quite a bit of information.

So they can make some relatively informed guesses about what, you know, what their risks would be and what they might be able to achieve in the market. So that, that might answer that portion of -- let's see. Some of the other questions, maybe those aren't even, even the best -- or I'm certainly not the best expert to respond to those.

CHAIRPERSON GANNON: Thank you.

Representative Hennessey has a question. Thank you.

REPRESENTATIVE HENNESSEY: Thank you, Mr. Chairman. Ms. Taylor, just to revisit a question from a few moments ago, I think you said that the need is supplied by these new generators; and therefore, that relieves the, you know, I guess to some extent relieves the idea of the need for the transmission lines to be approved.

But if the new generators are coming on line because that's where they can make the most money, then yes, the energy supply is created and the demand is satisfied; but it's satisfied, it seems to me, at a higher cost than it would be with this transmission.

An increase in transmission capacity has the benefit of bringing in lower cost energy, not, not just simply answering the demand for energy but doing it at the lowest possible cost. The new generators aren't doing that because they're coming out, they're coming on line because they think they can make a big buck by locating in an area of high demand.

And it seems to me, as Tom was getting to, a reluctance on the part of whoever owns these lines to increase their capacity seems to me to be sort of a self-fulfilling prophecy. We can't bring in the outside energy from somebody else; and therefore, we're going to supply it at a higher, higher rate here, which doesn't

help -- it helps the consumer in the sense he has the energy; but it doesn't help him in the sense he's paying the higher price.

MS. TAYLOR: The mechanism that helps to keep that in check is that every day, we do an analysis of those competitive bids. So if someone were a new generator, you know, the idea is you see what the prices are now. And you want to undercut that to operate because if you didn't, the selection would still be made to whatever's the most economic choice.

Even in relieving congestion, we always look at what's the lowest cost alternative. And I don't know if it's worth a lot to even talk about this. Our market monitor actually collects cost information on all generators built prior to 1996.

Generators that are used to relieve congestion are actually swapped back to their cost bids so that they cannot use, they can't use opportunistic or very high costs knowing that they might be the only solution to relieve congestion.

So they are actually back to cost bids to mitigate market power. But, you know, again, somewhat of a sidelight. But the idea is even that new generator still has to competitively bid and has to get selected by PJM to operate the next day.

So they still -- you know, as long as there's -- as we said, the more, the more participants in the market help to make those bids competitive. So they really do not have any sort of, you know, any sort of firm understanding that their energy will be bought at a very high price.

REPRESENTATIVE HENNESSEY: One other question just to follow up. The location of new transmission lines you said was going to take decades.

MS. TAYLOR: That's generally what, what members said.

REPRESENTATIVE HENNESSEY: What about upgrading existing lines? What are the problems there? Just, you know, people complaining about the, you know, more energy surging through the lines and existing lines? Aside from the federally placed caps on prices the transmission lines can charge, what's keeping --

MS. TAYLOR: There actually are many upgrades on the way. And that has never stopped the upgrades. So those are still continuing. Generally, what limits the transmission legally to run a parallel line, if you will, is the size of the right of way.

But anything that can be done within that right of way generally is and can be and is planned to be done. We were talking about that $700 million of

investment in the grid. Some of that, a large portion of that is due to the new generators. But much of it was already planned anyway just to accommodate load growth and increases by the transmission owners themselves.

REPRESENTATIVE HENNESSEY: On the existing lines?

MS. TAYLOR: On the existing lines, right. So they've always had an active program of upgrades and continue to do so.

REPRESENTATIVE HENNESSEY: Thank you very much.

CHAIRPERSON GANNON: Well, thank you very much, Ms. Taylor, for coming here today and testifying before the committee. It's been very informative and very helpful in understanding this issue. And with that, we're going to take a 5-minute break to give our stenographer's fingers a rest. And we'll be back here at about 4 minutes to 12:00, about 5 minutes.

(A brief recess was taken.)

CHAIRPERSON GANNON: Okay. The House Judiciary Committee will come to order. Our next witness is Mr. Irwin Popowsky, Officer, Office of Consumer Advocate. Sorry, Mr. Popowsky. And you may proceed when you're ready.

MR. POPOWSKY: Thank you, Chairman Gannon,

Chairman Blaum, members of the committee. My name is Sonny Popowsky. I am the consumer advocate of Pennsylvania. We are a State office. Our job is to represent the interests of Pennsylvania consumers before the PUC, the Pennsylvania Public Utility Commission, and other state and federal agencies and courts. Of particular interest in this hearing, of course, is that we represent customers of Pennsylvania's natural gas and electric service providers.

I want to commend you, Representative Gannon, for sponsoring House Resolution 100 and for scheduling this hearing. I believe that these questions, legal, economic, environmental, that are raised in House Resolution 100 are very important to you and all of your constituents. And I hope that my testimony can be helpful today.

I think the basic question that you're asking is, How are we doing in Pennsylvania regarding both electric and natural gas? And I think the answers are different. I think it is a tail of 2 industries. In electric, I think Pennsylvania consumers have fared pretty well under our 1996 electric restructuring legislation.

Today, as you've heard, the reliability and supply of electricity are adequate. And structures are in place to provide effective price protection for retail Pennsylvania electric consumers. Most importantly, the consumer protections that you built into the act in 1996,

including the long-term caps on the price of service provided by the incumbent utilities for a price that they can charge for generation, have prevented substantial harm to Pennsylvania consumers during what is necessarily a long transition to more fully competitive retail and wholesale electricity markets.

With respect to natural gas, availability and supply have not been at issue. However, Pennsylvania consumers and indeed natural gas consumers across the nation suffered last year through an unprecedented spike in prices that made it difficult, if not impossible, for many families to pay their winter heating bills.

Fortunately, natural gas prices have returned this year to more normal levels. But we must try to ensure that last year's catastrophic price rise does not become a recurring event.

Now turning more specifically to each of these issues. The question I'm most often asked with respect to electricity is one of the questions that you asked this morning, Chairman Gannon, which is whether the terrible failures that have occurred in California are likely to happen here in Pennsylvania.

My answer is that if Pennsylvania continues to follow the reasoned, measured approach that we embarked upon several years ago at both the wholesale and retail

levels, then there is no reason to expect that the California experience of rolling blackouts, bankrupt utilities, and wild price swings will occur here.

I mention the wholesale markets first because it is impossible for a successful retail competitive market to develop unless the wholesale market in bulk power markets are workably competitive. Pennsylvania is extremely fortunate, in my opinion, that most of our electric utilities and soon nearly all of our electric utilities are a part of the PJM Interconnection.

As you've already heard, PJM utilities have actually been working together on a regional basis since 1927 and now operate as part of the nation's most successful independent system operator, or ISO. The PJM markets are far from perfect.

But they are, in my opinion, far superior to virtually every other wholesale market region in America. The wholesale prices that are produced in the PJM marketplace, with some important exceptions, have been generally consistent with results that one would expect in a competitive market.

In addition, PJM maintains strict reliability requirements that must be met by all entities that serve retail customers in the PJM region. Again, as you've heard earlier, the PJM region appears to have adequate generation

of resources today and for the foreseeable future.

Now, building on the PJM foundation, Pennsylvania's own electric restructuring reforms have also provided benefits to consumers. Our rate caps, our retail rate caps assure that Pennsylvania customers do not have to pay more for electricity now than they were paying when our restructuring act was passed in 1996.

In addition, more than half a million or about 10 percent of Pennsylvania electric consumers have switched to alternative electric generation suppliers, whether to receive lower prices or to purchase power from generation resources that they believe to be cleaner than, or greener than traditional utility resources.

Electric utility programs, to assist low income consumers to pay their bills and to conserve energy, were also substantially increased across Pennsylvania without producing rate increases for consumers. Finally, Pennsylvania's leadership role in electric restructuring has helped to attract new types of renewable generating resources, such as wind and solar power, that previously had gone substantially untapped.

Now, it is true that retail competition has decreased somewhat from its year 2000 levels. Some market participants and other commentators have suggested that we should abandon our rate caps, our retail rate caps in

Pennsylvania, let our utilities raise their prices well above their 1996 levels so that it would be easier for competitors to come in and win customers.

I think this idea must be rejected in the strongest terms. It must be recalled that Pennsylvania utilities have been allowed to charge ratepayers for billions of dollars of so-called stranded costs that were expected to arise because competition would force rates to go well below their 1996 levels.

What consumers got in return was rate caps that protected them from paying even higher rates during the period in which those stranded costs were collected. That was the deal. If that deal is broken and consumers lose price cap protection, then the utilities, in my opinion, should first give back the $12 billion in stranded costs that Pennsylvania consumers are paying those utilities for anticipated losses.

In my opinion, the way to increase retail competition in Pennsylvania is by correcting any remaining flaws in the wholesale market, not by increasing retail rates and abandoning the rate caps that were supposed to protect consumers during this transition period.

In electricity, therefore, I think our policy goal should be to stay the course and continue to provide protections for consumers while we see how competitive

markets develop. That is not to say that the General Assembly should do nothing.

For example, I have testified in favor of a series of House Bills, House Bill 1076 through 1079, that would increase Pennsylvania's commitment to renewable resources and demand side energy programs. I have also testified in support of House Bill 1433 that would provide a modest level of state funding to support voluntary low income programs that have been implemented by Pennsylvania's electric and gas utilities.

There is no question in my mind that our energy policy will have failed if we provide an abundance of choices to some customers but leave our poorest consumers quite literally out in the cold.

Now, with respect to natural gas service, the most severe price shock in recent years occurred last winter when wholesale natural gas commodity spot prices skyrocketed across the nation. The impact of these price increases flowed through to Pennsylvania retail consumers.

Now, fortunately, last year's wholesale gas price increases were immediately followed by a rapid plunge in those prices. And those reduced wholesale prices are now being reflected in the retail prices paid by Pennsylvania natural gas consumers. And this is providing some needed rate relief to many Pennsylvanians as we enter

this winter's heating season.

The fact that wholesale natural gas prices have dropped in recent months, however, does not lessen the importance of this committee's task under House Resolution 100. The natural gas price roller coaster is not sustainable.

In trying to understand our recent experience and in trying to avoid seeing it happen again, it must be recognized that the wholesale price of natural gas, the so-called price at the wellhead as Mr. Rosenthal indicated, has been deregulated for many years, more than 20 years.

This has nothing to do with the act passed by the General Assembly, the Pennsylvania General Assembly in 1999 that opened a portion of the retail segment of our local natural gas utilities to competition. Wholesale natural gas prices were once regulated at the federal level, but now they are not regulated at all.

Rather, the wholesale price of gas is set through the competitive market. In my opinion, that market has worked well over the years in assuring an adequate supply of natural gas at reasonable prices. In early 2000, however, the dynamics of the market changed dramatically.

One of the causes of the problems of early 2000 actually was the fact that gas prices had been so low in prior years that many gas producers had stopped drilling

for new gas. The problem was exacerbated by the emergence of an increased demand for natural gas for new electric generation, for new electric generation units that are fueled by natural gas.

These electric generating units operate during periods of peak summer electric usage when the demand for natural gas was traditionally low. In addition, in the spring of 2000, gas storage levels were lower than normal, while gas prices were beginning to climb higher than normal.

Now, prices rose steadily as the winter of 2000/2001 began to approach; and then prices simply raced out of control. During calendar year 2000, the spot price of natural gas at the Henry Hub -- again, which was mentioned by Mr. Rosenthal -- the Henry Hub in Louisiana rose from $2.17 per thousand cubic feet, or Mcf, from $2.17 to $10.87.

As these higher wholesale prices began to work their way into Pennsylvania retail bills, the impact was extreme, leaving many people across Pennsylvania unable to pay their monthly gas bills. In addition, in most of Pennsylvania, the increase in gas prices was coupled with colder than normal temperatures, particularly in the early part of the winter, which caused monthly bills to rise even higher.

Now, today, as I noted before, wholesale prices have dropped substantially from last year's levels. Gas producers have expanded production and began drilling new wells at a rapid pace. The amount of gas storage has increased to normal levels and above. And wholesale prices dropped to the point where the reported Henry Hub spot price earlier this month, November 14th, was back down to $2.04 per thousand cubic feet.

Again, these wholesale price reductions are now beginning to be reflected in the retail bills paid by Pennsylvania natural gas consumers. Based on current projections, the lower wholesale prices are expected to continue through the next several months; though, it is extremely hazardous to try to predict the future of natural gas prices.

At the retail level, although competition for gas supply is permitted throughout most of Pennsylvania, the great majority of residential consumers continue to be served by their traditional local natural gas distribution companies. And the retail prices that those customers pay are regulated by the PUC.

Each natural gas distribution company purchases gas at the wholesale level and essentially passes that gas on to its residential and other retail consumers at cost; that is, the local gas distribution companies

generally do not mark up or profit from the sale of the natural gas itself.

Under Section 1307 of the Public Utility Code, each natural gas distribution company's purchased gas costs are reviewed every year by the PUC and other parties, such as my office. We work to ensure that each gas utility is serving its customers at the lowest reasonable price; that is, by purchasing its gas through a least gas procurement policy.

So what would I recommend with respect to natural gas issues in Pennsylvania? Well, at several of our recent purchased gas cost proceedings, our office has recommended that the utility purchase a larger portion of its gas supplies at fixed prices rather than under contracts that are indexed to the spot price of gas.

We believe it is important for the gas utilities to have a diversified gas portfolio that allows the gas utilities the flexibility to take advantage of lower cost supplies when they become available but also provides assurance that their overall gas supplies will not be as vulnerable to the kind of wild swings that we have seen in the last year and a half.

Also, as I said, with respect to electric rates, I have endorsed efforts at the state level, such as House Bill 1433, to help Pennsylvanians most in need of

assistance to withstand the impacts of high or volatile gas prices. High natural gas prices were hard on all Pennsylvania consumers last winter, but the impact was particularly harsh on low income consumers who have difficulty paying their bills in normal times.

I'd like to close my testimony by addressing a specific question in House Resolution 100; namely, whether the price spikes that we've discussed resulted from any violations of federal or state statutes. With respect to last year's natural gas price spike, I'm not aware of any substantial evidence that gas suppliers broke any laws.

As I noted above, a number of actions and events coincided to allow the tremendous and sudden increase in natural gas prices; but I do not know that any of those actions were illegal.

The situation with respect to wholesale electric prices is somewhat more complicated. Just last week, the Federal Energy Regulatory Commission, or FERC, initiated an investigation into market-based pricing in wholesale power markets. Under market-based pricing, the price of wholesale power is supposed to be kept in check by competition.

The FERC's recent order calls that assumption into question, particularly for companies that are not part of regional transmission organizations or independent

system operators, such as PJM. Even in PJM, there has been evidence of the use of market power to raise prices, particularly in the market for installed capacity.

In January, February, and March of this year, we saw a substantial and sustained increase in prices for installed capacity. PJM's market monitoring unit has *concluded that one company was able to exercise market* power to raise capacity prices above competitive levels during that period.

Now, to my knowledge, no one has concluded that this was a violation of law or of the PJM market rules that were then in effect. But I do think it's reasonable to conclude that the capacity rates resulting from those actions were not just and reasonable as required under the Federal Power Act.

The appropriate solution under the existing system, which PJM promptly took, was to obtain permission from the Federal Energy Regulatory Commission to strengthen some of its market rules to prevent a recurrence of this problem in the future.

So in conclusion, in my opinion, the energy outlook for Pennsylvania with respect to electricity and natural gas is reasonably bright. You said earlier, Representative Gannon, that perhaps the Pennsylvania General Assembly was smarter than other state legislatures.

And maybe I should just agree with that.

But in my opinion, what you recognized was that formerly monopoly products, like electricity and natural gas, cannot simply be deregulated in one day in the belief that perfect competition will emerge instantly in order to protect consumers from the exercise of market power and other market flaws.

To the contrary, Pennsylvania has kept in place necessary consumer protections to try to ensure that consumers are not harmed during the transition to more competitive energy markets but rather, can benefit from competitive changes while still retaining some of the protections of needed regulation.

I hope this testimony has been helpful to you and the committee. And I'd be happy to answer any questions you have at this time.

CHAIRPERSON GANNON: Thank you, Mr. Popowsky. Chairman Blaum.

CHAIRPERSON BLAUM: Mr. Popowsky, I asked this question of the previous witness. Due to what happened during last winter and the spikes that we saw in prices, which were difficult for the people in Pennsylvania to handle, given, again, the confluence of circumstances that happened back then, the previous witness indicated that steps have been taken to, you know -- while never say

never -- to prevent that from happening again in the industry here in Pennsylvania. And what is your opinion?

MR. POPOWSKY: Yeah. I think that Ms. Taylor was answering in response to electric prices, I believe. And I think your question may have also gone to natural gas. But as to electric, I would agree with her assessment; that is, I think PJM is the premier wholesale market organization in the nation and does the best job of producing results that are competitive.

More importantly, I believe that Pennsylvania has protections in place. And that's -- and particularly, the rate caps -- and that's why you didn't see last year or you haven't seen since 1996 any increases, any increases in Pennsylvania electric rates.

The complaints I believe that we, the complaints we received and I believe the complaints you received have to do with the, with the natural gas prices. So -- I'm sorry?

CHAIRPERSON BLAUM: And oil.

MR. POPOWSKY: And oil, which is not regulated by the PUC. But in any case, I think we are -- because of the, because of the excellent PJM market and because of the protections in place in Pennsylvania, I think we're okay on the electric side.

On the gas side, the prices have come down

this year. The same kind of market forces that worked last year to our disadvantage worked to our advantage this year. The laws of supply and demand have worked to our advantage this year.

Now, the question is, How do we prevent that kind of roller coaster? I think one of the ways to do it is to, is for our gas utilities, now that they've seen what can happen, now that they've seen the extraordinary events of last winter, I think they're well aware that, that more of their supplies have to be tied down to a fixed price rather than a price that is indexed to the, to the Henry Hub spot price.

Now, that's not to say that 100 percent of the gas should be a fixed price because if you do that, then you might get a fixed price that's just, it turns out to be too high. What it means is you have to be flexible in your gas procurement policies so that at least a substantial portion of your gas prices are tied down and will not be as susceptible to those kind of price spikes.

At the same time, you do want to have some gas that is indexed so that when prices go down, you can take advantage of those. So that's one thing that I think the gas utilities in Pennsylvania are well aware of. I think the Commission now is well aware of it and will take a look at that in future proceedings where we analyze the

companies' gas procurement policies in each year.

As I said, we are seeing, already seeing dramatic declines in the prices charged by our gas utilities. And I would hope that having been once burned by a price spike that no one had ever seen the like of, that people will now, you know, when they look and see that they might be low on storage, that prices may be going up, that they'll take steps to avoid that in the future.

So I think we can prevent that from happening again. I hope we can prevent that from happening again on the gas side.

CHAIRPERSON BLAUM: It may be the nature of the beast that when consumers need energy the most, given very, very cold temperatures, that the darn prices begin to soar. So the more they use, the prices have skyrocketed. And now they get whacked with huge bills.

And conversely, you know, perhaps the same in the summertime. Although, you know, hopefully with electric caps that you mentioned, that won't happen during very hot times when perhaps the use of electricity is also soaring.

And it's just a matter of preparing for those eventualities that I think this committee is interested in seeing occur. And so I thank you for your interest. Thank you.

MR. POPOWSKY: And if I could just add to that, there's also the demand side; that is, conservation and energy efficiency. I mean, one way to avoid paying the highest price for air-conditioning in the summer that some utilities use is they actually pay their customers $5 or $10 a month for the ability to cycle down those air-conditioners for 15 minutes an hour.

The customers, I'm told at least, barely notice that difference. And yet it reduces the cost that the utilities have to pay for electricity at those peak hours. So conservation and energy efficiency measures can also help.

CHAIRPERSON BLAUM: Thank you.

CHAIRPERSON GANNON: Thank you. Representative Hennessey.

REPRESENTATIVE HENNESSEY: Thank you, Mr. Chairman. Mr. Popowsky, Mr. Rosenthal spoke of the, I guess the unexpectedly high prices of natural gas in the summer refill season of 2000 as leading to the shortage going into the winter season.

And then he talked about the fact that the companies sort of sat on the capacity that, whatever they had in storage while they were trying to buy gas in January and February, I think what you call flowing gas prices.

MR. POPOWSKY: Spot gas prices?

REPRESENTATIVE HENNESSEY: No. I think it was flowing. Well, yeah. He said they were electing to tap into their storage supply and sought to increase their purchases of flowing gas. I guess -- it would seem to me that that's probably more defensible to do in January than to do in the beginning of March.

Had they sat on their existing supply in March and still bought natural gas at higher prices, you know, perhaps we'd have something much more substantial to complain about. Having done it in January, I think they might defend and say, Well, we were trying to just make sure we had adequate capacity to get through the rest of the winter if the flowing gas simply stopped flowing and became much more hard to acquire.

MR. POPOWSKY: Well, I think certainly in retrospect, we would say that the gas utilities in the spring of 2000 that were hoping for the price to go down turned out to be wrong. But it's hard to say for me -- I mean, I'd love to be able to say this with perfect hindsight -- that I can therefore not let, not let them charge the prices on to the customers.

I would like to be able to make that argument, but I can't. But the problem is that, as I recall, in the spring of 2000, the prices were higher than normal for the spring. And, and people expected, most folks expected

prices -- the projections you would see showed prices going down over the summer.

And yet instead of going down, they went up and up and up. And then by the time the winter came, all bets were off basically because now you had everybody trying to buy, to buy gas and, across the nation at prices that every day reached, reached new heights.

Now, fortunately, in Pennsylvania, that doesn't mean that the price of gas that retail customers saw went from $2 to $10 because what customers pay basically is sort of a 12-month rolling average of gas prices. So there was still a lot of the gas that was purchased before as well as this new high cost gas.

So -- but the prices gradually increased, really substantially increased last winter. And just like now, they're gradually going back down. But it's hard to say. But now, like I said, having seen that happen once, I think you could tell these utilities, Now wait a minute. You saw what happened in the summer of 2000. You should never be in a position to let that happen, happen again.

REPRESENTATIVE HENNESSEY: I guess that's where I really wanted to go because, you know, you led into the discussion by saying that the natural gas system entered that winter with storage levels below historic, storage levels below historic levels, I guess, with

capacity or the storage capacity below -- no -- the actual amount of the storage below historic levels.

Should there be a level set? I mean, should any, any company go into the winter season without, say, 50 percent of its projected needs already in supply, already in storage? Or are we just -- we'd be overreaching if we went to try and regulate that?

MR. POPOWSKY: I think that, that that's part of what the Commission -- well, it is part of what the Commission looks at each year; in other words, in terms of whether the company is managing their gas portfolio properly.

And I actually don't think that the storage problem was as big a problem in Pennsylvania as it was in some other states. But the market is a national market. And people were really -- you know, the gas that was being bought in those months was being bought at ridiculous, at ridiculous prices. And it really increased the Pennsylvania prices substantially.

But you're right. There is a -- it would be hard, though, to say in a statute, I think, to say this is the proper amount of storage. It is something, I think, though, that the Commission can say in an annual proceeding where we take a look at the reasonableness of the company's gas procurement practices.

And if the Commission finds that they had inadequate storage, then they should be allowed, they should disallow some of the costs.

REPRESENTATIVE HENNESSEY: Well, in looking back on it, could they do that? I mean, if we -- we started this discussion by saying they were below historic levels. Is that a point for inquiry that ought to be made?

MR. POPOWSKY: It's a point for inquiry. And the question is, the question that we have to face is we have to say, looking at it at the time the decision was made, was that a reasonable decision at the time the decision was made? We're not allowed to go back and say, you know, in retrospect that was a bad decision.

But it's a close call; that is, if there were some companies that really were -- well, if there were any companies that were negligent, then we would, or imprudent, then we would reduce their rates by that amount. On the other hand, if the Commission finds that, given the knowledge at the time, the companies were acting prudently, then you can't disallow that cost. You have to allow them to recover them from consumers.

REPRESENTATIVE HENNESSEY: It just seems, you know, rather coincidental. It probably was coincidental. But at a time that, you know, the amount of natural gas we have stored away for a cold winter is at a historically low

level, we enter the coldest winter of record. You know, and I'm -- you know, there may be nothing nefarious about that.

But I'm just wondering if we ought to sit there and say if we're going to use 100 million cubic feet of natural gas over the course of a regular winter, we ought to go in with half of that already in supply, in storage.

MR. POPOWSKY: My guess is they probably did have at least half of it in supply. Probably the next witness, Mr. Love, who represents the gas utilities, can probably speak more as to what they did have. Like I said, we make those kind of arguments all the time.

And the test is, Well, that's fine for you, Mr. Popowsky, to sit here in, you know, November 2001 and say that these companies should have bought more gas in April 2000. The question is, What was the reasonable thing to do in April 2000 given the gas supplies and projections at the time?

REPRESENTATIVE HENNESSEY: Okay. Thank you. Thank you, Mr. Chairman.

CHAIRPERSON GANNON: Representative Blaum.

CHAIRPERSON BLAUM: Just a follow-up to Representative Hennessey's question of what is reasonable at that time. And that's understandable, you know, that

the, that they make at that point in time a reasonable decision. But the Representative's question might be based on the reasonable decisions they were making were on a situation that was not well prepared for.

Is that taken into consideration? Not only the fact that people were making reasonable decisions in difficult times, but is it also taken into account that you weren't adequately prepared?

MR. POPOWSKY: I think, again, that argument could be made. And then the counter argument is, Well, this was the perfect storm. Everything that could go wrong went wrong. And people did not foresee it. But you're right. That's a fair argument.

It's a lot fairer argument to make today for this winter and for next winter because now people have seen what happens, what can happen. And they should be better prepared. And I think -- I believe they will be. But you're right.

The utilities, they have to plan for, you know, the coldest day in 10 years, the coldest day in 100 years. You plan for certain eventualities. But I at least have never seen anything like what happened last winter -- I have to admit -- in the gas market.

And I've been working here since 1979. I hadn't seen anything like that. But it's certainly

something that, now that we've seen, we better be prepared to deal with.

CHAIRPERSON BLAUM: And your analogy is well-taken. I mean, all morning I was thinking of the perfect storm, you know, that this was a confluence of circumstances that occurred. You know, we all need to be *better prepared for something close to those difficult days* because I think when we're not, everyone suffers, the industries all suffer, the regulatory agencies suffer in the minds of the people because they believe just as their needs are increasing dramatically, they believe they're being gouged.

And if that was the case, then action needs to be taken. If that was not the case, that this was just a perfect, the perfect storm, that everybody did do their best, then, you know, then the people need to be told that and so that confluence, you know, does not suffer. Thank you, Mr. Chairman.

CHAIRPERSON GANNON: Mr. Popowsky, we heard some testimony a little bit earlier that there was some concern about the folks that generate electricity, that they are, most of the generating stations that they're building now are going to use gas and that there was going to be a substantial increase in demand for natural gas as a result of that.

I guess you can infer from that either it would be a price consequence if you have these generating stations going on line and using a tremendous amount of gas. Do you have any thoughts on that, or do you foresee any problems there?

MR. POPOWSKY: Yeah. I think that that is the biggest, that's probably my biggest concern for the future. Assuming everything works properly, we still are going to have to face the question of how much, how much we're beginning to rely on natural gas.

From the projections that I've seen, at least that are being published by the Department of Energy, the American Gas Association, they seem to be fairly confident that they can meet the, meet the demand for gas without the real price of gas increasing much more than it is today; in other words, not $10 but more like $3.

Now, you have to add inflation to that. But those are the projections that at least the industry is putting out and that are being put out in Washington. That's even assuming that there's a lot of gas plants built. Now, like I said, I find it difficult to predict the price of gas, you know, next week.

So it's much harder to predict the price of gas 20 years from now. But it's certainly the biggest concern. And I think particularly because of the impact in

the winter, if a lot of electric generation is being used, if we rely so much on natural gas generation in the winter, on the coldest day of the year, you may, on that day, you may not have enough gas to both serve all the essential human needs, you know, residences, schools, hospitals, and operate all the electric generation that you might want to operate on that day.

So I'm sure that that's something that folks at PJM are looking at. And it's the thing we have to keep our eye on.

CHAIRPERSON GANNON: It seems to be, I guess, a little bit ironic because the gas is transmitted long distances. I think the fields are down in the southwest. So there's a liberal number of transmission you can only transmit so far.

And I guess these pipelines are extremely expensive to build and probably difficult under today's circumstances. But it can be stored. Electricity can't be stored if the generator has to be used as it's generated. And yet the item that can be stored and held aside for the winter seems to have the greatest impact on Pennsylvania consumers in terms of, you know, heating their homes, which is critical during a cold winter.

And when we had -- we had testimony that we have, in the summertime when we have a high demand for

electricity, frequently the price doesn't fluctuate that much.

MR. POPOWSKY: Yeah. The price -- well, first of all, you're absolutely right. The big difference is storage for electricity. That's why I say the question is not so much whether you have the gas but whether you'll be able to run that electric power plant because the supply of electricity at every moment of every day has to, the supply has to exactly equal the demand.

So when you flip that switch, there is some plant there, somebody there to provide service. So -- and you can't store it. Gas -- you're right -- can be stored. It can be transported by large, in large distances. It can be transported to specific places more easily than electricity.

So I think at least it's a solvable problem; that is, you can build more storage, you can build more pipelines, you can drill for more gas. And I think that's what the folks in Washington and the gas industry believe will happen.

There are price spikes in electricity at the wholesale level in the winter. I think what Ms. Taylor was saying is that the PJM has just been very successful in getting a lot of buyers and sellers into that market so that it's been only on rare occasions when our PJM

wholesale prices have reached those kind of crazy levels that you used to, that we were seeing every day in California a year or so ago.

CHAIRPERSON GANNON: Do you know -- this may be a stupid question -- is there a cap on the amounts that can be charged for transmission of gas as there is with electricity?

MR. POPOWSKY: Well, I don't think it's quite accurate to say there's a cap on either. I think the transmission of gas and the transportation of electricity --

CHAIRPERSON GANNON: Tariff, tariff?

MR. POPOWSKY: Yeah, there's a tariff. Exactly.

CHAIRPERSON GANNON: Is there a cap on the tariff?

MR. POPOWSKY: Yeah. The prices that can be charged by interstate natural gas pipelines are regulated by the Federal Energy Regulatory Commission. The prices that are charged by transmission companies for the interstate transmission of electricity are also regulated by the Federal Energy Regulatory Commission.

The reason for that is both of those systems have, still have natural monopoly characteristics. You don't want to build 5 sets of power lines down Front Street

in Harrisburg. That's a distribution line. But if you remember when they tried to build the power line from Pittsburgh to Harrisburg to Three Mile Island a few years ago, GPU tried to build a power line. And the real problem was the, was the inability to get the power line sited.

But in any case, the price that can be charged for transmission is regulated by the FERC. The price that can be charged for transportation of gas is regulated by the FERC because those are still effectively, for the most part, monopoly services.

CHAIRPERSON GANNON: I just -- and you talked a little bit about the price cap that we have for the consumer electricity. And it would seem to me that, you know, if that expires or if there's some effort to raise that cap, that this transmission issue comes into play, this, this congestion issue comes into play more.

That would in effect -- well, the one side, you'd have the cap lifted off the consumer. You'd have more competition and more people coming in. But on the other side, you'd have this congestion which would really, in my view, cause a tremendous price increase because there'd be fewer, the smaller generators couldn't get into the marketplace because of the lack of transmission capacity.

MR. POPOWSKY: Well, again, I think my sense

is that the smaller generators can and will get in because there you're talking about, you know, those dots on the map. The -- to get onto the grid, they just have to interconnect with the grid.

They can get -- once they get onto the grid through that interconnection, they can sell, they can sell power. Now, it's true that if there are constraints from west to east, you're less likely to want to build a power plant to the west of that constraint than you are to the east of the constraint. And that's, that's the way the PJM system is designed to work.

In terms of building -- and PJM does have a regional transmission expansion plan, which I think is another one of their great features, which is that they actually can determine where transmission is needed, at least for reliability purposes, on a regional basis. But so PJM does do that.

And now, the problem I think may occur when you want to build a long power line. And there, I don't think the problem so much is that the, whether you get a 12 percent rate of return or a 15 percent rate of return. The problem is whether you have the ability to site that line.

It's the -- it's very difficult to site a, a new transmission line for -- but that's for environmental and social reasons, not because the rate of return is not

high enough.

CHAIRPERSON GANNON: Okay. Thank you very much for appearing before the committee today and providing us with insight into the energy situation from the consumer standpoint. We appreciate it very much.

MR. POPOWSKY: Thank you.

*CHAIRPERSON GANNON: Our next, our next* witness is Mr. Michael Love, President and CEO of Energy, the Energy Association of Pennsylvania. Welcome, Mr. Love. And you may begin when you're ready.

MR. LOVE: Chairman Gannon, members of the committee, thank you for hearing my testimony. I know the hour is late and we're running somewhat behind. So I'm not going to go into my prepared comments in the length that I was going to.

But instead, I would like to try to address some of the questions you've been raising specifically so that we can get to the meat of some of this. First of all, what happened last year on natural gas prices, which seems to me to be the thrust of this resolution. I want to talk about that for a minute.

What you heard Mr. Rosenthal talk about was what happened nationally. And all the things he talked about did happen nationally. Now let's look at locally. The Pennsylvania gas utilities, to the extent that they

have storage, went in with the same level of storage last year as they went in the year before and are going in this year, which was an extremely high level of storage.

However, the other gas entities across the United States did not do that. They went in with a significantly lesser amount of storage than did their Pennsylvania counterparts. Now, they did so for a variety of reasons, ones that what the consumer advocate rightfully referred to as the perfect storm.

They had seen increase in use of natural gas generation that had been used during the summertime that put pressure heretofore unforeseen on storage nationwide in gas in the summertime. They saw rising prices when usually there were falling prices.

And so it was their decisions -- because again, gentlemen, this is a national market -- those decisions on storage elsewhere helped drive up the price nationally. The other thing that helped drive up the price across the board, including Pennsylvania, was higher than normal winter weather and higher than warmer summer weather.

The latter is important because that increased the electrical usage which increased the usage of gas at a time when it didn't normally occur. And on the wintertime period, as the consumer advocate mentioned, you make

decisions. You use spot prices; you use contract prices; and you use gas from storage.

When the severe winter started to occur early across the United States, everyone started using gas out of storage because spot prices were already so high. And trying to lock in any of these natural gas prices that were already high did not seem to make sense either.

So I want to specifically say -- you're saying, What can I do about Pennsylvania? What I'm saying is your local gas distribution companies, to the extent they had storage, had them at the levels that they had always historically had. They used wise reasoned judgment, a judgment that was reviewed and found to be prudent at the time.

Now, we've had some reference about California. And California, sadly, plays a part in what happened in Pennsylvania and across the nation as far as gas prices. California, not only besides having a very stupid legislative group compared to our distinguished people in Pennsylvania, also had --

REPRESENTATIVE HENNESSEY: We thank you very much for that.

MR. LOVE: Well, I'm just saying is that they made a series of mistakes and had made a series of mistakes. The industry, the regulators, and the

legislators out there have not built things. And so what happened is during the particular time during 2000, they wanted natural gas for new generation they were building because they were facing blackouts. And they needed natural gas for heating and cooking. And it was competing.

And the sorry state of affairs and maybe some equity is that as bad as gas prices were in Pennsylvania, in California they were far worse, far worse. They paid even 50 percent more above what we paid because they were basically saying, they were totally out there on the spot market going, We'll take anything we can get.

And that's part of the problem, what happens when you don't plan. And so California was driving the price of natural gas up everywhere because of their shortsighted planning.

Now, you're concerned -- and rightfully so, as anybody would be after seeing what happened -- in terms of prices. And Sonny just got done saying -- I just want to point this out, and I know other speakers are going to point it out.

In my published remarks that I've brought, I've brought to you a look at the natural gas prices back in my Exhibit B. You can look at A and B. And we'll talk about both of them. But what you see there is that in terms of natural gas, there was clearly 10 years of a very

static price.

So the customers in Pennsylvania and across the nation have seen a very stable natural gas price. And then there was a horrible time period, the perfect storm that we've been referring to. And now you see that for 2001, those prices have come down.

If I take you to Exhibit A, you can see that back in November of last year, things were at $4.77 in million cubic feet. That rose as high as 9.64. And now we find ourselves at 2.19. So prices, as things happen in the market, respond.

Now, going to -- and just so we're also clear, the gas companies in the state of Pennsylvania have all filed and had approved rate decreases of significant magnitude. And all of those rate decreases are in effect for the holidays for the winter heating season.

So the rates that will be charged this winter will be a fraction of what they were last winter as far as the cost of gas is concerned. So -- and that is very, very good news for the consumers of the state of Pennsylvania. And I want to stress to you, as you look at Exhibit B and Exhibit A, that you'll see that while gas prices did spike a year ago -- and I'm not trying to minimize that -- that that was clearly an aberration from a 10-year time period of very stable gas prices; and furthermore, that that

stability, that low cost has returned to the state of Pennsylvania as well as the nation at this current time.

Last year, a lot of things hit. A robust economy was going on, colder than normal winter temperatures, and some of the planning that had been failed to be done or should have been done in California. Those factors, with the possible exception of California, are not present this year.

Now, there's been also some discussion -- and maybe some of us were confused in the room because energy was used in the bill. And so that has led us into some discussion about electric and gas. And I want to make sure that we distinguish the 2.

I would point out that Pennsylvania can feel very good. As Sonny just got done telling you, is that our electric rates are lower today than they were back in 1996. Again, whether one talks about gas or one talks about electric rates, I think you should find that Pennsylvania's electric and gas utilities are charging stable energy rates. And we are concerned.

And I concur with what Sonny has raised in terms of wanting to see more state help for LIHEAP programs and such where possible so that you help those people that are least likely to deal with large changes in the price of supply in the future. And that's something that would be

of value.

Now, we've had a lot of discussion about transmission lines. And I want to talk about them both from an electric standpoint and a gas standpoint. On the electric side, I think it's fair to say -- and there was a reference given to an attempt that was made a number of years ago -- is that the most difficult problem has not been that electric companies have not tried to build transmission lines; but rather, there has been extraordinary difficulties in getting siting approval throughout the United States for transmission lines.

Transmission lines by their very nature are wide swaths through the countryside. And they go on for lengthy periods of time, and they're very critical. You can't have -- and you are deficient if you believe -- you can't have just solid generation.

You need transmission, and you need distribution. Just like a car. It's just not the tune-up. You have to keep the wheel alignment. You got to keep the tires pressured. You got to keep it all in shape, not just one aspect of it.

The electric companies would love to build more transmission line. And the President, in his energy policy, has very forthrightly stated that one of the key weaknesses of our country at this present time is the fact

that we do not have a transmission line infrastructure that's been built in either electric or gas to meet the needs that we need in the future.

And that's going to force us all to make some tough choices because, as I said before, the biggest difficulty has been in siting. It's not been in inclination. It's been in siting.

In terms of gas transmission lines, if we're going to have -- since at this point in time gas has been chosen as the most likely to be built energy supply source for generation, we are going to have to build more natural gas transmission lines.

And again, that's going to come from investment decisions, siting decisions, and whether we're going to be willing to build those gas transmission lines. Those are issues. The transmission line picture is the one that FERC is wrestling with both on a gas and electric basis, and the Congress is.

That's where the discussion has come in on the energy bill as to whether the federal government can supercede the states in terms of siting because of the difficulty in building transmission lines. Now, I'm not going to try to complicate this discussion today by going into the pros and cons of that. But I'm saying that only simply to educate where we are in terms of a problem.

I understand and solute you, Representative, for raising this as an issue. Obviously, constituents are going to be concerned when they see the mammoth increase that went up last year. And I don't want to dismiss that concern one iota. It's a legitimate concern.

What I'm simply trying to say is, in answer to I think it was Representative Blaum's question, I think a lot of steps have been taken. There are more gas pipelines being built across the United States than there has been in the past.

And in terms of new well sites, during the last year, there have been an extraordinary amount that have been built that have not been undertaken in prior years. However, with the declining price that I've shown you on Exhibit A, that, again, could influence how many wells come on board in the future.

So again, it's the questions of supply and demand. We'll have to see how that comes. But I think that you can take pride in the fact that the Pennsylvania gas distribution companies did, unlike their counterparts across the United States, manage their storage capacity in a very, very responsible way.

And they had anticipated more so than others what was going on and did responsibly respond. However, even they, even we, even you cannot control national events

when national factors start to affect national markets. And gas is a national market.

And I hope my comments, together with what I've submitted in writing, details a number of the things. But again, I would reinforce that the gas utilities in the state of Pennsylvania have filed for and received approval to significantly reduce the gas rates in a significant fashion from what they were last year.

CHAIRPERSON GANNON: Thank you, Mr. Love. Representative Browne.

REPRESENTATIVE BROWNE: Thank you, Mr. Chairman. Thank you for your testimony today. You had -- and I credit you for this -- you mentioned that the utilities have applied for lower rates for this winter for natural gas consumers.

You also mentioned how the rates themselves of flow will -- excuse me -- may create some of the problems we had in the past regarding planning for the future and developing new sites for supply. Is there any correlation there? Would it be best to use this opportunity as, from the industry's standpoint, as a way to plan for the future rather than putting ourselves in the same situation?

MR. LOVE: Again, we have to be careful when we use the term industry. We are the tail end. We're the distribution system. We are not the ones that are in the

exploration business, and we're not the ones that are in the development business.

So -- and what motivates those that are, and as other speakers prior to me have said, you know, the wellhead price, the price at where the wellheads are done was deregulated a long time ago. And those folks will *respond to market prices*.

When prices are up, there will be more drilling activity than there are when prices are down. I was just using that as a caution in trying to reference the concern that you and others of the committee had stated about what is the likelihood of things happening in the future.

I just wanted to say to you that obviously market forces do influence price and do influence activity.

REPRESENTATIVE BROWNE: Would it be inappropriate to use that additional revenue in terms of the, the higher prices that are in place right now to build storage capacity?

MR. LOVE: First of all, we need to make sure we understand, as I think I saw in the comments of one of the speakers, that storage is usually built in rock or salt caverns. So that, number 1, we have a geological limitation.

Number 2, a lot of storage facilities have

been built. And Pennsylvania, as I think you heard from Mr. Rosenthal, is third largest in terms of storage facilities. But you have to realize that, for example, there's no storage facilities in all of New England. None.

They have neither sought to put it anywhere nor do they have the geological formations to allow it. And so many times, we're dealt different hands. And this becomes a complicated issue to respond to. I think that what I'm trying to give you some assurance of is, from a Pennsylvania standpoint, that our local distribution companies have kept and are keeping and will keep a very, very high level of storage.

And we're hopeful that others across the United States have, as someone referenced, learned their lesson and are keeping higher levels of storage as we did. But again, as national markets and what we do don't, doesn't always influence what else goes on.

REPRESENTATIVE BROWNE: Your general opinion in terms of those national, those national factors, the factors of the way to exploration and development, is something that Pennsylvania has no ability, through regulation or incentive, no ability to control?

MR. LOVE: I think it's difficult to incentivize national events. I think I heard one of the prior speakers talk about that gas prices have to be, in

essence, 50 percent higher than they are today for you to encourage more gas drilling in the state of Pennsylvania, for example.

And while you might say, Well, I would like to see more gas drilling activity, I don't know that we'd want to say to our ratepayers we'd necessarily want everybody to pay 50 percent more for that said gas. I mean, those are the choices you get into.

REPRESENTATIVE BROWNE: Thank you very much. Thank you.

CHAIRPERSON GANNON: Representative Hennessey.

REPRESENTATIVE HENNESSEY: Thank you, Mr. Chairman. Mr. Love, first of all, thank you for that clarification because I was under the impression that we entered the winter of 2000/2001 at historically low levels of storage. And I gather from what you're saying is that maybe the nation did but we were at a normal level of storage.

MR. LOVE: That is correct. In Pennsylvania, yes.

REPRESENTATIVE HENNESSEY: Thank you very much for that. Now, that being said, can you give us an idea -- I mean, quantify that for me. Are we talking about one month's worth of natural gas usage for an average winter as our storage capacity?

Are we talking about 2 months; are we talking about 20 percent or 50 percent or 60 percent of our expected usage for an average winter? What kind of capacity -- aside from the 728 billion cubic feet, what is that amount to, in terms of our ability to withstand a normal winter?

MR. LOVE: Representative, I don't know if I have the answer to that question specifically. And if I remember correctly from my research that's back at the office, that it varies depending on the gas company that you're talking about. But I'd be happy to provide that information to you.

REPRESENTATIVE HENNESSEY: Well, just as a rule of thumb, is it -- what's prudent? Is it to enter the winter season with half of the natural gas that we're going to need?

MR. LOVE: No, no.

REPRESENTATIVE HENNESSEY: Nowhere near that high or --

MR. LOVE: No, you would never have that much. You would be down in the 10 to 20 percent range that you would have in storage.

REPRESENTATIVE HENNESSEY: Okay. One other question about your graph here, Exhibit B I think. If we went back another 10 or 15 years, would the prices be

traditionally low? Or is there a, you know, some sort of cycle here that every 10, 15, or 20 years there is some sort of spike?

My guess would be that it would be relatively low, you know, as far back as we might want to look.

MR. LOVE: I can certainly speak to the time period of 1980 to 1990. And you would have found it to be at that same flat level.

REPRESENTATIVE HENNESSEY: Which sort of reinforces the argument that this is such an aberration, that we see it as such, ought to see it as such. On the question of transmission, improving the transmission lines both for natural gas and for electricity -- and this will sound like a very elementary comparison -- but if I have a quarter-inch size, quarter-inch diameter hose that I'm trying to water my garden with and I want more water, I change the size of the hose.

I mean, I could go to another faucet in my house and run another hose and put it, you know, put a different, a totally different line in, a different hose in. But it's more likely that I would increase the size of the hose to a half-inch diameter or 3/4-inch diameter to simply carry more water.

The earlier witness said it's going to take 2 decades, perhaps, as an estimate, to try to put a new line

in. But what about the usage of the existing transmission lines, transmission rights of way and simply expanding their capacity to carry either electricity or natural gas? I mean, is that being done? And if not, why isn't it?

MR. LOVE: All right. I believe your previous witness that was talking to you about the problem of siting transmission lines and taking 20 years was talking about electric transmission lines.

REPRESENTATIVE HENNESSEY: Right.

MR. LOVE: Going to a pipeline, which is your water hose analogy, I'm going to go to gas and talk about that for a minute. If you're asking the question, if there is a 16-inch line, are people going in along existing right of ways and either piggybacking that on to add another 16-inch to get to 32 or taking out the 16-inch to make it 32, the answer is yes.

I mean, obviously, that's one of the problems that occurs because unlike your water hose analogy, the more correct analogy would be, if you think about pipelines across the United States, would be a 16-inch going down to an 8 going up to a 16 going down to a 6 going up to whatever.

Effectively, you're wiring your weakest link in that example. It's, in essence, a 6-inch line for the entire time period. And that's why the focus has been

trying to eliminate those gas line bottlenecks where there is a, if you will, smaller hose in your analogy. And that work is going on during existing right of ways.

And there are projects currently going on in Pennsylvania and elsewhere to expand the capacity. And also, sometimes the better course of value is to piggyback, not necessarily take out the entire line because that can be disruptive because you have current service off of it. Instead, to use that existing right of way to add a line on top.

REPRESENTATIVE HENNESSEY: I guess the only question I would want to follow up with that is the earlier witness -- and I forget who it was -- sort of suggested that perhaps these tariff caps that the Federal Energy Regulatory Commission has in place has inhibited or -- yeah -- has kept that, that kind of upgrade from happening.

But you're saying it's happening anyway just as a matter of ultimate overall demand.

MR. LOVE: Okay. I was talking about -- my discussion was gas transmission lines. I would concur with the prior witness, who I think was the representative from PJM. Ms. Taylor, I think, quite correctly indicated that the construction of transmission capacity on the electric side is a very, very serious problem for the United States.

And some of the obstacles that have been there is primarily, probably number one, siting. It has become very difficult to site a transmission line. To use the analogy, I think, that if you approach the public, they usually are more willing to have a power plant sited in their backyard than they are a transmission line.

I'm not saying it's right or wrong, but I'm saying it's unfortunately been experienced. Litigation over siting of long transmission lines which go over hundreds of miles takes much longer than generation, and that has in and of itself been an inhibition.

The other thing is that the current situation, what happens if you're trying to move power from Ohio to New York City and you're going to be going through a lot of different companies and each one of them adds a rate on to the transmission of the energy, that's called pancaking.

That's what the Federal Energy Regulatory Commission's trying to do by eliminating pancaking by going to the regional transmission organizations or regional ISOs. They're trying to have a larger transmission entity based on PJM as a model.

But they're trying to do that so that they can eliminate this incentive of pancaking and also actually address siting issues and also address transmission placement. So I want to concur with the representative

from PJM in saying the transmission construction, which you also heard from Mr. Biden, is truly one of the biggest problems we have today because it does act as an obstacle from moving lesser cost power from one part of the country to another part because at different times, whether we're having storms, aberrations in price, some generators trying to use their muscle, you want to have the availability of bringing power in.

REPRESENTATIVE HENNESSEY: But does it impact natural gas companies, natural gas industry differently than the electric? Because in electric, she was saying that the tariff caps are keeping us from increasing that capacity. And yet I think I heard you say that the natural gas industry is increasing the capacity in spite of those tariff caps. Maybe the impacts are different.

MR. LOVE: What I was trying to address is, first of all, it's easier to site a transmission gas main underground than it is to site a transmission electric line above ground. That has just been a historical fact, and that's true for a variety of reasons.

Some of them have to do with checks, some have to do with siting, environmental litigation.

REPRESENTATIVE HENNESSEY: Okay. I understand. Thank you very much.

CHAIRPERSON GANNON: Just a follow-up on the

Representative's question. I would disagree that the right of way is treated a little bit differently with the gas line than overhead power line. You can squeeze maybe 2 or 3 pipelines in there, whereas I don't know if you could piggyback another power line over power line.

MR. LOVE: It depends on the structure. There are instances where you can piggyback, and there are instances when you can expand. But there are also questions of sometimes local law, sometimes state law, sometimes federal law that are much more stringent in terms of environmental considerations as well as others when you deal with electric.

CHAIRPERSON GANNON: It seems to me that -- going back to this problem that we had with these price spikes of last winter -- that the problem really started much earlier than winter. Apparently, there was -- I'm sensing that there are a lot of plants out there now that are using natural gas to generate electricity.

And they apparently were using a lot of gas during the summer. So they were using some of those storage capacity that they had to generate electricity. And at the same time, we saw the price of oil going up. I guess a lot of those plants can convert over to oil or gas, depending on prices.

It seemed that by the time they got into the

winter season, there was no, there was no cost savings by converting over to oil even though the price of gas was going up; in other words, they were both going up at the same time.

I guess the idea is they were fluctuating going back and forth. And it seemed that we saw both high petroleum costs and then the high, the high gas prices. And there really wasn't the ability economically to go to oil. So you had to stay with gas, which further drove the price up. And the price of oil was going up.

Am I making sense? It's kind of what I'm sensing, picking up was going on.

MR. LOVE: Representative, I think you are touching on a very important point that I want to go back and reinforce. Certainly -- and I think there's a speaker after me that may be more enlightened on this than I am. But I would say that's historically been the case, that gas and oil prices often work in tandem with one another, is that when one goes up, the other goes up.

And if you remember back then, I mean, if you can remember back to January of 2001, we were, at times, talking about the price at the pump being $3 a gallon. And now if you go out there, you can find it at 99 cents a gallon.

So market forces do work, and they do create

aberrations at times. I think the choice that was being made is that there are numerous industrial customers across the United States that do have the choice of operating with either electricity, that they can get their electricity, or they can get their energy supply either from oil or from gas. And they were making choices.

And then after a while, when both started going up, there was a problem in terms of choice, certainly in terms of yes, there was generation out there that was impacting this whole situation. But if you really want to go back in time, the way we got ourselves into a problem is that there had not been enough of a spread or enough encouragement over the past decade for wellheads to be dug and natural gas exploration to be encouraged.

Sadly, that came about only when the price spiked up. And all of a sudden, there was encouragement. And all of a sudden, the number of wellheads being dug dramatically increased. And I can send you information on that activity as to how much wellheads were, happened in each of the years, just like I gave you this information, if that would be helpful.

CHAIRPERSON GANNON: Would it be fair to say now what's going on -- we're reading in the press that the oil-producing countries in Russia and in the Middle East are now getting together and trying to reduce production to

raise the price of oil.

Will that have an impact? If that's successful, would that, as a matter of course, increase the price of natural gas? In other words, we'll go into this -- are they close enough that we could go into that kind of a cycle again?

MR. LOVE: Well, let's go back. Right now, oil prices are probably at one of the lowest levels they've been in some time. And this is in a free-fall situation. The marketplace is driving down the price of oil precipitously.

What you're seeing right now between the Mideastern countries, the OPEC nations trying to influence specifically Russia and Mexico, is that they're trying to get them to curtail some of the production so that they can, if you will, halt a downward decline and try to bolster it some.

But again, remember, this is a free-falling downward thing that they're trying to stop. And if ultimately they were successful or if, because of some terrorist activity or whatever, the price of oil started to go up again significantly, yes, that would ultimately have an impact on the price of natural gas. You're right.

But what I'm saying to you is, first of all, oil is at a level that, it's lower than it's been in a

long, long, long time. And again, that's market forces at work. And right now, what they're trying to do with Russia and Mexico is just try to stop the slide.

CHAIRPERSON GANNON: When we were debating this, this legislation, this resolution to look into this -- this was March of 2001 -- prices were still pretty high in, I think, February. By March, there started to be some decline. April started to see some decline.

But one of the issues was the word that was used, price gouging. And I guess under a market economy, you expect companies and people to take advantage of market conditions. But we saw prices $3 a gallon for gas, natural gas, to $9.

Normally, I would expect when you see this idea of supply and demand -- I don't think this happens in a vacuum -- but if you see the demand go up and then, of course, production increases to meet the demand, there's usually cost involved in increasing production.

I'm thinking of a factory. All of a sudden, a product becomes extremely popular and there's a big demand for it. There's a cost factor that will go into that. That will increase your cost of that, of that product. What happens in this industry is, in other words, you have something that's not made.

Gas was made millions of years ago. It's

sitting there. It just has to be drawn out and then sent to its market. You have -- somebody has to dig it out of the ground, pump it out of the ground. Somebody has to transmit it to the market.

Then you give it to the market; and somebody sells it to the consumer, who uses it. You know, what factors come into play other than simply -- is it just simply demand and supply that cause this price to go from, say, $2 to $9 or from 99 cents or $1 to $3?

So that, you know, that somebody along that, along that chain of, of production and transmission and selling is making an awful lot of money out of a situation as opposed to also seeing cost increase from their end, you know, their profit.

Maybe they're making a little bit more. But, you know, it's within reason. So there isn't this, quote, price gouging going on.

MR. LOVE: All right. Let's address the question of price gouging because it's a fair question. First of all, let me reiterate what you heard from the consumer advocate and I will reiterate to you and you heard from the Commission as well.

Your gas distribution companies, your People's Gas, your Equitable, your Dominion, they did not make any more money because the price was at 2.19 versus 9.634 in

Mcf. They are merely recovering the cost of whatever the product is. So you can understand that the consumer advocate, the Commission, utilities involved in the state of Pennsylvania, no one is making more money there. So that's something we can put aside.

Now, Sonny addressed it in his testimony; and I'll address it in mine. I'm not cognizant that FERC has found that anybody was price gouging in natural gas in the markets that serve Pennsylvania. I do know that they found one potential issue that they had with one particular company, but that was one that was serving California.

Other than that, I have not heard of price gouging. So the question then, What went on? There was demand; there was supply. This is a demand and supply market. The price got up sufficiently so that well sites that weren't economic at 2 or 3 all of a sudden became economic at 5, 6, 7, 8, 9. That was part of it.

That's not really price gouging. That's really supply and demand as to what facilities, where you choose to dig.

CHAIRPERSON GANNON: Well, I think that goes into my cost of production factor.

MR. LOVE: Yes.

CHAIRPERSON GANNON: So, you know, it's not worthwhile to, it's not economically viable to -- and I

understand that -- to drill here because of where it is and getting labor there and the materials you need. And so now all of a sudden, at $5 a cubic feet or a million cubic feet or whatever that is, now that becomes --

MR. LOVE: Attractive.

CHAIRPERSON GANNON: But now your supply is going up because more gas is going into the market.

MR. LOVE: And concomitantly, price went down once the supply went up.

CHAIRPERSON GANNON: And they shut down those wells now --

MR. LOVE: Supply and demand is a --

REPRESENTATIVE HENNESSEY: Now I understand. Now I understand.

CHAIRPERSON GANNON: By the way, Representative Hennessey is going to have an announcement after the meeting. He is going to build a gas generating station over the Capitol Building so we can make use of that hot air.

REPRESENTATIVE HENNESSEY: We can use some hot air in here.

CHAIRPERSON GANNON: Well, thank you very much, Mr. Love, for your testimony. It's been very, very helpful and instructive on this aspect --

MR. LOVE: Thank you for the opportunity.

CHAIRPERSON GANNON: -- on energy costs and distribution in Pennsylvania. Our next witness, witnesses -- I'm sorry -- next witnesses, Rayola Dougher and John Felmy --

MR. FELMY: I'm the computer operator.

CHAIRPERSON GANNON: -- Senior Policy Analyst with the American Petroleum Institute. And you may proceed when you're ready.

MS. DOUGHER: Mr. Chairman, members of the committee, thank you for inviting me here today. The American Petroleum Institute is a National Trade Association. We have over 400 member companies representing all aspects of the petroleum and natural gas industry in the United States.

I do have a prepared statement, but I thought what I'd do is just run through a few slides to highlight some of the points I made in my statement. And we've already covered a lot of material this morning.

First of all, right at the start, I want to say that the changes in the prices that we have seen really are an indication of the interplay between supply and demand. And our experience with these fluctuations tells us the energy markets do work and petroleum markets do work.

In a long term, however, there are some

serious problems facing our industry that do need to be addressed. In the short term, as we've heard this morning, I think the outlook is very encouraging for this winter season.

I'm going to start with my outline, just a very brief quick overview of the energy in Pennsylvania and then proceed with a couple of slides just talking about petroleum supply and demand and some of the key reasons for the price fluctuations we saw, talk a very little bit about inventories and prices, and wind up with some energy policy implications.

I'm going to keep going, and the slides will catch up with me. Okay? Overview of energy in Pennsylvania: You're the 6th largest state, the 7th ranked in terms of energy consumption. Your per capita energy consumption ranked 39th. Total petroleum consumption, you're 6th.

In terms of crude oil proved reserves, you have less than 1 percent of the US total. You're 24th in oil production, 15,000 oil wells, 9 rotary rigs. You have 5 refineries. You used to have 8 back in 1988. Now you have 5. 4,900 gas stations.

In terms of fuel types, the most important fuel you use is petroleum, 34 percent of your consumption, followed by coal at 28 percent; nuclear, 18; natural gas,

17. The biggest sector using energy is the industrial at 35 percent; transportation, 26; residential, 23; commercial, 16. We're just going to fly through these.

Here's -- and one chart I have shows Pennsylvania's energy consumption by sector and fuel type. You already know natural gas is very important in the residential sector. It's the largest kind of fuel used by, in homes, followed by petroleum and electricity.

And you have a kind of mirror image in the commercial sector. The industrial sector uses, as you know, a lot of coal. And of course, transportation is virtually all petroleum.

Now I'd like to turn to just some of the key reasons to petroleum supply and demand and some of the reasons for the fluctuations that occurred over the past year. And the very key, the fundamental reason is we don't have any excess refining capacity. Refineries are operating flat out.

Since 1985, the demand just has not, has outstripped our ability to supply product. So right now, we're importing 2 1/2 million barrels a day of product. This is 12 percent of US demand. The Department of Energy predicts that our imports will grow by about 140 percent over the next 20 years.

And what happened -- if we get the chart up

there, we'll see it. But what happened during the '80s and into the '90s, there were huge investments required of refining, refineries, primarily to meet environmental standards. The return on the investment for that industry was about 4 percent for, I think, 17, 18 years.

And what this meant is the smaller refineries that couldn't keep up shut down. We used to have 195 refineries in the United States. We now have 152. And as I said, in Pennsylvania, you had 8. Now you have 5. The ones that are left aren't operating. They're maxed out. They're really at the edge of where they can go. So that sort of sets the stage for us.

Another important reason -- oh, good. There's the chart. You can see, as we go up to the right there, that gap is just growing ever wider. Now, another important reason, the next slide, is the proliferation of boutique fuels in the United States. Different US jurisdictions require us to have different kinds of fuel to meet environmental requirements.

So we have 16 different kinds of gasoline in the United States. And these boutique fuels decrease the ability of the supply system to move gasoline from one area of the country to another. So if you have any small change or any little glitch in the system, that can cause an explosion in prices. And we saw that in the Midwest most

recently a year ago.

So the next slide is really a summary of what many went over this morning, why our prices were higher through the year. Basically, demand was greater than supply. We approached the winter with stocks of heating oil and diesel fuel that were lower than normal.

Then, of course, the coldest weather in a decade hit us. The natural gas prices were very high, which caused electric utility companies, the ones that could, to burn distillate fuels instead of the natural gas. And so refiners were making record amounts of distillate fuel. They're not building inventories of gasoline because they're making the distillate fuel.

And then when spring comes, they routinely take off time to do routine maintenance, which you have to do every year. So they got a late start making the gasoline for the summer. And then we -- our inventory was sent to the lowest level in 40 years.

So the production of gasoline was down 2 percent. The demand was up 2 percent. And this led to a huge price increase that we had in the spring. The next slide, the pink line shows prices in the US. And the blue is for Pennsylvania starting in, starting in April.

And you can see the peak in May at over $1.70 a gallon. And it started to decline as, as refiners rushed

product to market. And it peaked a little bit in the summer as some of the summer driving season increased. And now we're in a nosedive. We're at $1.10 in Pennsylvania, $1.15 nationwide for retail regular gasoline as of yesterday.

And a large reason for this is the fact that we now pay around $17 a barrel for crude versus $35 we paid last year. So that has -- that sharp drop on the right is reflected in the prices that we have for refined products. This shows distillate fuel prices. Those 2 vertical lines at the right just brackets the past year.

And if you look at the bottom, you can see crude oil prices where they were a year ago and where they are now. They're quite a bit lower. And this is passed on to retail heating oil, which was up and it's now quite a bit less, and retail diesel, which was higher and now lower.

Here's a natural gas chart or numbers people were talking about earlier. You can see that huge peak, $9. That was back in January. And right now nationwide, we're at about $1.70 per million cubic feet. A year ago at this time, it was around 5.60. So that's quite a bit less.

These are slides from the Department of Energy's Energy Information Administration. Next slide, fossil fuel prices to electric utilities. Coal was just

flat throughout the year. But then you can see that residual fuel oil was higher a year ago than it is now. And of course, the natural gas prices, too, are quite a bit lower. This is good news for consumers.

And the next slide. With lower demand, too, we've had increases in our inventories. And they're looking very good compared to a year ago. Nationally, heating oil inventories are up 23 percent from where they were a year ago.

In the Mid-Atlantic states, they're 39 percent higher. Natural gas, 13 percent higher nationwide and 10 percent in the whole eastern region, higher than a year ago. Gasoline in the Mid-Atlantic region, storage is 23 percent higher than a year ago.

So all this is, is very good news for the coming season. And it's because of this -- I'm sorry that that's a little unclear -- the Department of Energy expects lower prices this season for all consumers. That just gives you an illustration.

The very right-hand column shows, compares their forecast from this year with last year. And they expect all refined products to be less for consumers than they were. So in the short term, the outlook looks very good. In the long term, we do have some underlying problems that need to be addressed.

We have to increase domestic production. We're becoming more and more dependent on oil imports. We now depend on -- 60 percent of our oil demand is met by imports. We need to diversify our domestic and international sources of supply.

We have to update and expand our energy infrastructure. Our refining and delivery infrastructure is stretched to the limit. And refiners would be required to make massive investments over the next decade or so to expand their capacity to meet consumer demand.

We haven't built a new refinery in over 20 years in the United States. Meanwhile, there's very complex, time-consuming permitting requirements that impede the ability of refiners to expand or retrofit their facilities. And we need to simplify some of those rules and regulations.

The clean air requirements have resulted in 16 different types of fuel in the United States. We don't need 16 different types of fuels. This makes it harder for us with minor disruptions to get product to the right customer at the right time. We need a lot fewer than that.

Policymakers also need to determine the impact of governmental decisions on our, on our energy security. We have environmental impact statements. I think when we have environmental rules and regulations, we should

consider also the energy impact that these environmental rules and regulations have on, on supplying energy to customers.

So in the short term, it looks very good. In the long term, we have some serious underlying problems. And unless we solve some of these, I think we will be due to more severe disruptions in the future. Thank you.

CHAIRPERSON GANNON: Thank you very much. It seems to me -- I guess it's self-evident. I didn't mean to jump in ahead of you.

REPRESENTATIVE HENNESSEY: That's all right.

CHAIRPERSON GANNON: -- that when prices are like where they are right now, the spot market is very, very good.

MS. DOUGHER: It's great.

CHAIRPERSON GANNON: But when prices are where they were back in January of last year, the spot market is very, very bad. As you were talking, I was sitting here trying to figure out how you can try to predict that. I mean, people who have been doing this for years and years missed the mark.

MS. DOUGHER: Absolutely. I was looking at testimony over the summer --

CHAIRPERSON GANNON: There's more luck involved than there is skill in trying to make projections

as to where the market is, is going to be. And I think one of the members' questions, I think it was Representative Blaum, you know, this is going to happen again. And we just have to be better prepared for it. Even if we don't know when it's going to happen, I think we should maybe have some things in place to deal with it.

There was comment on the floor going into debate on this resolution that our refining capacity was going down and not up and that was causing some of the problems that we were seeing and that we have some environmental laws that severely hamper our ability to use the energy resources that are available to us.

I have a theory, which everybody knows. Fifty-seven million years ago, the dinosaurs ruled this earth. There isn't one of them around anymore. And they used it to whatever they wanted to do. And 57 million years from now, we're not going to be here either.

So I think we ought to use what God's given us and, you know, and exploit it to, in a rational, reasonable way so that we enjoy our time while we are the dominant species. And there's some folks out there that spend most of their time trying to interfere with that.

REPRESENTATIVE HENNESSEY: Some people might argue that some of the dinosaurs are in the legislature.

CHAIRPERSON GANNON: Speak for yourself. But

I was taking a lot more credit than I should have. I now learned that all these different economic factors come into play. Transmission, production, distribution factors come into play, supply and demand.

And here I thought -- I introduced this resolution on March 14th of 2001. And immediately after that, prices started to go down. So I was taking too much credit, more than I deserved. But I think this hearing, at least this first hearing in a series, has been extremely helpful in understanding this issue, I think for myself and for the other members of the committee, in terms of what you are confronted with -- I don't mean you individually but people that supply gas, oil, and electricity, and all the things that we use to make our lives better -- and some of the things that maybe we can do to help and not hinder and try to make sure that there's a plentiful supply and that it's at a reasonable cost.

And hopefully, we won't see things like happened last year occur again. Although, economic pressures are probably going to come to bear that will cause increases; and supply and demand will come into play again.

But I think that the President of the United States is on track in terms of exploiting our own natural resources as much as we can rather than depending on

foreign sources which are trying to come into play now. I mean, we see in the press that OPEC is putting pressure on Russia and Mexico -- I don't know what's happening down in South America -- to try to curtail production so that they can jack up the price. And that's going to affect us if they're successful in doing that.

Any questions? Representative Hennessey.

REPRESENTATIVE HENNESSEY: Thank you, Mr. Chairman. How do you say your last name?

MS. DOUGHER: It's Dougher.

REPRESENTATIVE HENNESSEY: Dougher. In one of your charts, one of the, why were prices higher, first item -- I don't know which chart it was.

MS. DOUGHER: It's on page 3 of the handout.

REPRESENTATIVE HENNESSEY: As winter approached last year, stocks of heating oil and diesel fuel were lower than usual. Now, we heard the same thing about natural gas. And the explanation I thought from natural gas was that some of the natural gas was being diverted out to California, you know, for use in generating other fuel so they can get through their summer crisis or something.

You know, is it coincidental that the natural gas inventories being low is replicated by the, as we go into the winter, the same winter that oil stock storages are low?

MS. DOUGHER: I think high crude oil prices come into play with this. If the crude is very expensive, then you're not going to be adding to your stock when it's particularly high. So that was, that was part of, part of what was going on in terms of having lower inventory than the previous year.

Prices last year were $35 a barrel for crude. Right now, they're 17.

REPRESENTATIVE HENNESSEY: Through the summer of 2000?

MS. DOUGHER: Right, about a year ago.

REPRESENTATIVE HENNESSEY: So in a sense, that high price of crude was what generated or drove the lower storage levels in the same way that increased usage of natural gas for the, in the system drove the --

MS. DOUGHER: Right. If you have -- if prices are higher, there's no real incentive to build up your inventory at that point. You'd like to build up the inventory when prices are sort of lower and coming down. So that's what we're seeing now.

We have a great stock of inventory because demand has come down. And so the prices are lower. And it makes good business sense.

REPRESENTATIVE HENNESSEY: And the high price of crude last summer, was that what drove people to use

natural gas for generating electricity in some of those areas of the country that needed it so badly?

MS. DOUGHER: No. I think the natural gas used was just part of a hotter, a hotter season than normal. And the natural gas was used to fuel electricity. And I think that that's what increased the natural gas demand in the summer.

REPRESENTATIVE HENNESSEY: One other question that bothers me. The spikes that we see, especially the one spike, in natural gas prices went up and then came down almost precipitously within maybe a 3- or 4-month period. Now, something like that is not caused, that relief is not caused by bringing new plants on line.

You can't do that in a 3- or 4-month period, I would think. And part of that, I guess, is the fact that winter was over and we went --

MS. DOUGHER: Right, yes.

REPRESENTATIVE HENNESSEY: -- into the spring in mild temperatures. But does that account for, you know, that precipitous fall, just moving from January till April?

MS. DOUGHER: Yes. You were out of the winter season. So the demand did fall. You'd almost have to go back to 1999. You'd have to go back a couple of years to look at when petroleum prices were extremely low, about $10 a barrel. There was no real drilling going on. And that

sort of set the stage for low inventories in the fall and, and the fact that the natural gas price could spike so much.

REPRESENTATIVE HENNESSEY: I guess what I'm confused about is if it can spike so much in the winter of 2000/2001 --

MS. DOUGHER: Can it do it again?

REPRESENTATIVE HENNESSEY: -- why doesn't it spike every winter if that's really the -- I mean, we're talking about prices of $10 -- what was it? -- $10 and then it dropped down to 2.18. I mean, that's a major, major drop. And if that's accounted for by saying, Well, gee, we went from winter to spring or January to April, then why doesn't it happen at least to some extent every winter like that?

And yet we have those charts that say we can go back 15, 20 years and never see that kind of a spike.

MS. DOUGHER: Well, I think you were talking about the perfect storm this morning and the coldest winter in a decade, tight supplies going into the winter with lower inventories. All those things set the stage for that price spike.

And once it shot up that high, utilities looked for other sources of supplies, switched to distillate, switched to what they could. That had

repercussions in the gasoline market. We're making more distillate, less gasoline. It had repercussions through the whole system.

REPRESENTATIVE HENNESSEY: Okay. Well, hopefully we won't see the perfect storm again for a while. Thank you very much. Thank you, Mr. Chairman.

CHAIRPERSON GANNON: Thank you, Representative Hennessey. And as we were going through this, I started to develop these different theories. I had this theory that the reason the gas prices were, the natural gas prices were going up is because the utilities were using the natural gas because the petroleum prices were so high. They didn't switch over to petroleum.

Then you say, Well, they switched over to petroleum. And that caused a --

MS. DOUGHER: Well, that did last winter --

CHAIRPERSON GANNON: And then I'm thinking, Well, maybe some guy is sitting there. And as these prices are fluctuating, they're trying to decide whether or not they're going to buy. Well, we'll wait till the price goes down. And the price goes up. Well, we'll wait till the price goes down. And it just keeps on going up.

And they're just constantly putting off these purchases. But if they're putting off the purchases, that means the supply out there is not being sold. And

somebody's controlling that price. And something's happening to make the price go up if people are waiting to buy.

MS. DOUGHER: Well, supplies are very tight, right. And that will push the prices up when the demand's going up.

CHAIRPERSON GANNON: Okay. Well, are the supplies tight not because of demand but because production was low?

MS. DOUGHER: Yes, production was low because the prices had been less expensive before. There was less drilling, less product being stored. Yes. It's sort of cyclical, that yin and yang that was mentioned.

CHAIRPERSON GANNON: Well, thank you very much, Ms. Dougher.

MS. DOUGHER: Dougher.

CHAIRPERSON GANNON: Dougher. I'm sorry.

MS. DOUGHER: That's okay. Thank you.

CHAIRPERSON GANNON: Thank you very much for appearing before the committee and sharing this information with us. It was very, very helpful.

MS. DOUGHER: Thank you.

REPRESENTATIVE HENNESSEY: Thank you very much.

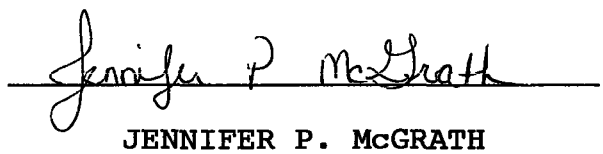
CHAIRPERSON GANNON: No further business

before the committee. This meeting is adjourned.

(Whereupon, at 1:41 p.m., the hearing adjourned.)

* * * *

I hereby certify that the proceedings and evidence are contained fully and accurately in the notes taken by me during the hearing of the within cause and that this is a true and correct transcript of the same.



JENNIFER P. McGRATH

Registered Professional Reporter

My Commission Expires:

April 30, 2005

JENNIFER P. McGRATH, RPR
P.O. Box 1383
2nd & W. Norwegian Streets
Pottsville, Pennsylvania 17901