ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE
April 11, 2007
3:34 p.m.

MEMBERS PRESENT

Senator Charlie Huggins, Chair
Senator Bert Stedman, Vice Chair
Senator Lyda Green
Senator Gary Stevens
Senator Lesil McGuire
Senator Bill Wielechowski
Senator Thomas Wagoner

MEMBERS ABSENT

All members present

COMMITTEE CALENDAR

Presentation by Marianne Kah, Chief Economist, ConocoPhillips Inc., on Natural Gas Pricing and Trends

SENATE BILL NO. 91
"An Act relating to the authority of the Department of Environmental Conservation to require certain monitoring, sampling, and reporting and to require permits for certain discharges of pollutants; relating to criminal penalties for violations of the permit program; and providing for an effective date."
MOVED CSSB 91(RES) OUT OF COMMITTEE

SENATE BILL NO. 44
"An Act making a special appropriation for a grant to the Alaska Railbelt Energy Authority Joint Action Agency to construct a wind farm on Fire Island and transmission lines to connect the wind farm to existing electrical infrastructure in Anchorage; and providing for an effective date."
HEARD AND HELD

PREVIOUS COMMITTEE ACTION

BILL: SB 91
SHORT TITLE: POLLUTANT DISCHARGE PERMITS

SPONSOR(s): RULES BY REQUEST OF THE GOVERNOR

02/21/07	(S)	READ THE FIRST TIME - REFERRALS
02/21/07	(S)	RES, JUD
04/11/07	(S)	RES AT 3:30 PM BUTROVICH 205

BILL: SB 44
SHORT TITLE: APPROP: FIRE ISLAND WIND FARM
SPONSOR(s): SENATOR(s) MCGUIRE

01/16/07	(S)	PREFILE RELEASED 1/5/07
01/16/07	(S)	READ THE FIRST TIME - REFERRALS
01/16/07	(S)	RES, CRA, L&C, FIN
04/11/07	(S)	RES AT 3:30 PM BUTROVICH 205

WITNESS REGISTER

MARIANNE KAH, Chief Economist
ConocoPhillips Inc.
Houston TX
POSITION STATEMENT: Gave presentation on natural gas pricing and trends.

WENDY KING, Manager
ANS Gas Development
ConocoPhillips
POSITION STATEMENT: Commented on natural gas pricing and trends presentation.

LARRY HARTIG, Commissioner
Department of Environmental Conservation (DEC)
Juneau AK
POSITION STATEMENT: Introduced SB 91.

CAMERON LEONARD, Assistant Attorney General
Department of Law
Juneau AK
POSITION STATEMENT: Commented on SB 91.

LYNN KENT, Director
Division of Water
Department of Environmental Conservation (DEC)
Anchorage AK
POSITION STATEMENT: Commented on SB 91.

VICKI PORTWOOD, Executive Officer
Alaska State Homebuilders' Association
POSITION STATEMENT: Supported SB 91.

MARIT CARLSON-VAN DORT
Staff to Senator McGuire
Alaska State Capitol
Juneau, AK 99801-1182
POSITION STATEMENT: Available to answer questions on SB 44.

JAMES POSEY, General Manager
Anchorage Municipal Light and Power &
Officer, Alaska Railbelt Energy Authority (AREA)
Anchorage AK
POSITION STATEMENT: Supported SB 44.

ACTION NARRATIVE

CHAIR CHARLIE HUGGINS called the Senate Resources Standing Committee meeting to order at 3:34:04 PM. Present at the call to order were Senators Stedman, Stevens, Green and Huggins. Senator Wielechowski arrived soon thereafter.

ConocoPhillips

3:34:48 PM
CHAIR HUGGINS announced the first order of business is to hear from ConocoPhillips on the trends in natural gas pricing. He invited Marianne Kah to introduce herself.

MARIANNE KAH, Chief Economist, ConocoPhillips, said she is not testifying about AGIA, but rather the huge amount of risk that exists with building a gas pipeline. She keeps hearing people say that this project is wildly economic and that troubles her because she follows the gas markets and is one of the few people who think about what the gas market could be doing 50 years from now and said it doesn't do anybody a service to tell them there aren't huge risks associated with this project. She wouldn't talk about all of them, but only the market risks and the cost risks, because those are the ones she has the most expertise in.

3:36:15 PM
She showed them a slide of the U.S. Department of Energy's supply and demand forecast that indicates if everything goes as they hope it will, demand will at least be stable and grow slightly. Lower 48 production will be flat or declining and the gap will need to be filled by new supplies, hopefully which will be Alaska natural gas as well as new LNG supplies and Canadian Arctic gas. That's the plan, but that could go wrong, she cautioned.

MS. KAH showed a slide indicating that the Department of Energy's Annual Energy Outlook (AEO) has reduced its demand forecast outlook significantly, but not their supply forecast. She wanted to talk about what that means, why they did that, and what might happen in the future.

She showed them the demand forecast by sector and said it used to be thought that the big growth in gas demand would be in the electric power sector, but in the last two years, that has all but flattened out. A number of combined cycle power plants were built over the last decade and they are running at 20 to 30 percent capacity utilization now. Right now there is a lot of built-in demand in the power sector, so the question becomes what happens 5 to 10 years from now when the country goes through another wave of building new power plants.

3:37:09 PM
SENATOR WAGONER arrived.

3:37:18 PM
MS. KAH said people will not choose to build gas-fired power plants because gas prices are too high. The Department of Energy is seeing this, too, and she showed the committee a number of examples where people are actually already starting to plan to build other things besides gas-fired power plants.

The other thing the DOE says is that industrial demand is going to grow by over 1 percent a year, but she didn't believe that. She believes that we are losing energy-intensive demand because industry is going to places like Trinidad, Saudi Arabia and Qatar - places that have stranded and very cheap gas.

3:38:16 PM
MS. KAH showed the committee a slide of the activity level of the industrial sector in the U.S. It indicated a complete disconnect in the last five years since gas prices rose to fairly high levels and this is telling her that the high tech sector is doing pretty well right now, but the energy intensive industries that use a lot of natural gas are leaving or producing less. More imports are coming in of cheaper products that can be manufactured somewhere else with lower-cost gas.

These industries were developed in the U.S. when gas was $2 to $3/mmbtu, but they cannot survive in the U.S. with gas prices above $5 or $6/mmbtu. So, she thinks it inevitable that these industries will continue to leave. However her biggest concern

is the double-whammy that their leaving would cause. They take power demand away with them, as well, because they are very power-intensive like the aluminum industry. So, not only do you lose, natural gas demand directly, but it's lost through the power sector as well. She explained:

> Gas is the marginal power supply and by that what I mean is when you're bringing on power load, you first bring on nuclear, because it has zero variable cost; the fuel is nothing. Then you bring on coal-fired power plants, because coal prices are fairly low. Then you bring in the combined-cycle power plants and last of all you bring in the steam-fired gas plants. So if electricity demand or industrial demand is lower, you are going to back down those natural gas plants first, because they have the highest variable costs and the variable cost, of course, is the natural gas price, itself. So, you lose electricity demand, you lose natural gas demand and that's a big problem.

3:40:17 PM

MS. KAH said what concern's her most right now is that electricity demand in the U.S. is slowing. Historically it has grown at 70 percent the rate of GDP, but over the last five years it has dropped to 50 percent. The reasons are not known for sure, but one thing is known for sure and that is that it's not caused by weather - because the most recent time period had 6 percent more cooling degree days which would indicate higher electricity demand growth. She could also say it's not due to the hurricanes from 2005, because if she takes out 2005, she sees an even-worse picture.

People are just guessing at what's going on, she said. One theory is that it is the loss of the industrial sector. Second, that the companies that are staying are making investments in fuel efficiency because of the high natural gas prices. ConocoPhillips is doing this and it has been corroborated by Dow Chemical. Another possible reason is the saturation of residential/commercial energy-using appliances. Maybe people have enough appliances now and don't need to build bigger homes. The final theory is that consumers are actually conserving by turning down their thermostats, for instance.

> But I think the point, the thread through all of this, is that if prices stay high for an extended period, the world doesn't stand still. Consumers and

industrial players take action and they do something about it and they reduce their demand.

3:41:53 PM
MS. KAH said she is even more worried about the next 20 years if high gas prices continue for the next decade. That would permanently chase away the demand for natural gas. The American Council for an Energy-Efficient Economy estimates that we could save 24 percent of electricity demand with known technology today and they have been saying this for 10 years, but no one has been incented to do anything about it. She illustrated this point by showing a $7-dollar light bulb that she just bought at a local hardware store. It has only 15 watts, but has the energy of a normal 65 watt bulb. The DOE says if everyone in the country would replace their incandescent bulbs with these, it would save 8 percent of electricity use - and that would amount to a loss of 7.5 bcf/d of natural gas demand – bigger than the pipeline.

While she didn't expect this to happen tomorrow, the country of Australia is thinking of requiring the use of these light bulbs nationwide and some states are considering it as well. In Germany, 50 percent of their light bulbs are like this one. She said the GE just had a press announcement that said all of their incandescent light bulbs will have the same energy efficiency as this bulb by 2010. So, big technology changes will make a huge difference. You can't believe someone who says there isn't any risk. There is huge risk for something of this magnitude that lasts for this many years.

3:44:00 PM
MS. KAH said she thought the bigger risks are on the demand, itself, for natural gas and less so on new supply coming in and taking away the role of gas. The Department of Energy's forecast for fuel use shows no growth in gas post-2020.

She said the biggest threat in natural gas demand is coming from the coal sector and this is because the U.S. has a lot of coal. "We are the Saudi Arabia of coal. We own 27 percent of the world's coal resources – the same amount that Saudi owns of the world's oil resources." This is a big incentive along with the fact that coal prices don't go up as much as gas or oil prices. So, it looks very economic to build a coal-fired power plant.

3:44:53 PM

CHAIR HUGGINS mentioned that environmental movements want to limit coal use by mandate and asked what her thoughts were on that.

MS. KAH replied that she has spent a lot of time thinking about the impact of carbon legislation. She looked at Europe that has gone through Phase 1 of the Kyoto agreement implementation and there has been absolutely no change in coal versus natural gas use – simply because the legislation had so many allowances that no one had to change their behavior.

So, she would anticipate the first thing that would happen in the U.S. is that it would likely do something that would be phased in so there wouldn't be much impact for a very long time. Second, if you do something large and have a large enough carbon tax, it suddenly becomes economic to do coal gasification and then capture and sequester the coal. She was not saying we are anywhere near there, because it would take a very large carbon tax to get there, but in 30 years it is entirely possible.

MS. KAH said as an example, a Dallas utility, TXU, just went through this. It announced its intention to build 11 conventional coal-fired power plants in Texas where they are really needed. She pays $.15 a kilowatt hour for electricity when the national average is $.10 and it's because Texas is dependent on gas-fired power plants which cost a lot. So, the business community and the governor all wanted to see those plants built. Then every environmental group in the country came to Texas to protest. Some clean air groups even turned out to be independent gas producers. A private equity fund came in and bought the entire utility on the condition that they only build three of these coal-fired power plants. And this week they announced they were going to build a new nuclear power plant. "So, again, they're not talking about building gas-fired power plants because states who use a lot of gas want to diversify away from gas."

MS. KAH said she didn't know if the nuclear power plant would get built, but it might just be too expensive to build anything right now. That is where the whole conservation or demand-side management scenario becomes more real. It's too expensive to build anything new right now, so business will conserve.

3:48:16 PM
Slide 10 showed that most forecasts are lowering natural gas projections and raising coal globally. And that's because

natural gas prices are too high right now. They are projecting that people will move away from gas, Ms. Kah reiterated.

3:48:54 PM
Slide 11 showed the DOE's forecast for electricity generation by fuel and today they believe that coal will gain market share – from 50 percent today to 57 percent by 2030. Natural gas is projected to lose market share and they are showing nuclear losing market share, too, but she didn't believe that because the federal Energy Policy Act of 2005 has enough incentives for nuclear that she is seeing them getting permitted around the country now. Texas has two other utilities that are trying to permit nuclear power plants right now. The biggest issue today is cost.

3:49:32 PM
Wood Mackenzie's analysis of all the projects in planning in North America indicate that post-2010 everything being planned is either coal or nuclear; it's not gas. Ms. Kah said, "My message here is there really is a sense of urgency in getting this pipeline coming, because if utilities and industrial consumers don't see this gas coming, they will make other plans."

MS. KAH also pointed out that the old gas steam-fired power plants are being retired and even if those were replaced with a combined-cycle power, those use less gas, so that would still be a net reduction in gas demand.

3:50:32 PM
SENATOR MCGUIRE arrived.

3:50:38 PM
CHAIR HUGGINS asked her how much gas the gas-fired plants used that were going to be closed.

MS. KAH replied about 25 gig watts of gas. This is not a large number compared to the fact that ConocoPhillips has a 960-gig watt electrical system, but replacing that with something else would be taking away the gas demand. She said it's a small number compared to the additions of 68 gig watts of coal and maybe 34 gig watts of gas taking place over the next two or three years. "So, it's a small number compared to the addition, but it's all gas demand and it all counts."

3:51:49 PM

SENATOR WAGONER said last summer the director of the Nuclear Energy Regulatory Commission (NERC) presented to the Energy Council and said that somewhere less than 8 percent of the power generation in the U.S. is nuclear and he thought that would probably be maintained, but her slide shows 19 percent in 2005. He asked where the discrepancy was.

MS. KAH replied the she didn't know where the director got his number, but hers are DOE numbers. The difference could be possibly that he was talking about capacity versus generation. But she didn't think that was it because nuclear power plants always run at 92 percent of capacity utilization. He could have been talking about a period when a lot of nuclear power plants were down. She offered to contact him about it.

3:53:25 PM
She continued saying that on the supply side no LNG is coming into the U.S. she said, and that is the reason the terminals are half-empty and won't see supply until maybe 2009. There are cost overruns and delays in all of the projects, which she estimated might come on line by 2012. But eventually the supply will arrive and the later it arrives, the higher the prices stay and the more likely someone will build something else.

She said the second wave of plants now in the planning stages will come from developing countries where things take longer to accomplish – like Nigeria and the Russian projects. They are riskier, but they will eventually come as well. Forecasting is impossible because of geopolitics and the huge cost overruns that people are seeing today. She repeated that the next wave of power generation will come in the next 3 to 4 years and that's when she wants people to see gas coming.

3:55:28 PM
CHAIR HUGGINS noted that the Baja and the Gulf have terminals.

MS. KAH acknowledged that and added that ConocoPhillips has tried getting terminals on both the east and west coasts and has not been able to do so. The Gulf of Mexico is a very good place to bring LNG because you want to bring it to place that has a lot of industrial demand. You don't want it to be seasonal heating demand. So bringing it in in a place where Dow Chemical can use it all year round is a good fit. On the other, not all of the LNG needs to be brought in to the Gulf Coast.

3:56:15 PM

She said the industry is sitting on unprecedented cost overruns, which is different from what happened in the 70s. The difference is that in the 70s prices were high, but in the early 80s there was a global recession that brought them down.

> We're in a very different place today. Even if prices come down, costs are not likely to deflate like they did in the 80s and the reason is we have China, we have a strong global economy and there's lots of competition for labor and materials and construction equipment.

She said the cost of steel is of huge concern and that isn't driven by our industry; it's being driven by China's need to build things. Again, she didn't believe the cost of steel would be deflating in the steel industry.

3:57:26 PM
SENATOR STEVENS said as an economist she should be able to predict cost overruns and asked why they are talking about cost overruns as if they don't know what they are going to be.

MS. KAH replied that for the first time over the last two years she has tried to forecast costs to put in ConocoPhillips' long range plan along with prices, but costs have suddenly become a huge variable that people don't understand. She has been doing regression equations going back to the 70s trying to understand. Her analysis led to her statement a minute ago that costs aren't coming down that much - because strong economic growth is keeping them up there. The next slide showed what appears to be a 2 to 3-year lag between when WTI prices move and when costs move and "Cost follows prices." Unlike the 80s we have strong economic global economic growth that is going to keep those costs from dropping with price. That is really what worries her.

3:59:34 PM
She said ConocoPhillips has refineries in the Gulf Coast and they are having to pay craft people to live near them and pay completion bonuses so they'll stay until the end of the project because other people are trying to bid them away. "It's unbelievable what's happening now." She said that she had visitors from Alberta who were telling her they were going into California to find illegal aliens and bringing them up to Alberta because they are so short of labor. Drilling costs and WTI prices move hand in hand.

MS. KAH said when EconOne talked about “the perfect storm” they meant the possibility that the pipeline would be built in a high cost environment and be brought on line in a low price environment, but they thought that scenario was very unlikely. That didn’t make sense to her and she showed a chart of investment cycles for the oil industry and said if history repeats itself, it is very likely we would be in the perfect storm.

4:02:13 PM
She said that most mega-projects that are being undertaken around the world today are experiencing major cost increases. It even caused ExxonMobil to cancel a GTL project in Qatar recently. Wood Mackenzie just did an analysis of the Mackenzie Delta project that ConocoPhillips is in and that indicated that the project was not commercial in its current form. It said at this cost level, the break-even Henry Hub gas price for that project is over $7/mmbtu. This is why they hear industry constantly focusing on this issue.

4:02:48 PM
CHAIR HUGGINS said Exxon's cost estimate for the project she mentioned came in within 1 to 2 percent, and then they canceled the project.

MS. KAH replied that is very consistent with how Exxon works. They decided the project wasn’t economic and they weren’t going to do it. People are canceling projects because they aren't economic in today's market. She said, of course, there are semantics in play. Maybe the original estimate is when the project is sanctioned or when the first cost estimate was done. The data they are looking at is just public press releases.

4:04:24 PM
She explained that people used to believe that oil and gas prices track each other and specifically that gas prices track oil prices. But the relationship is not between crude prices, but between low-sulphur fuel oil and number-2 fuel-oil prices, because those are the alternative fuel oils used in a steam boiler and combined cycle turbine. That idea seemed to work fine for a number of years, but in the last two years there has been a complete disconnect between oil and gas prices, causing economists to debate what is going on.

4:05:14 PM
SENATOR WAGONER said he thought it was disingenuous for BP to show the legislature the one high point that dropped afterwards.

MS. KAH followed up saying she thinks we are having temporary weather related problems – two warm winters and depressed gas. However, she said, what is going to set gas prices in the long term isn't oil price, it's the cost of building coal-fired power plants. Gas doesn't compete with oil anywhere; it competes with coal. Nobody would ever think of building an oil-fired power plant. So there is no reason in the future why those prices can't be disconnected. In fact right now LNG prices are tied to oil prices; but eventually she believed there would be a world spot-market for natural gas and pricing would be based on a world gas price. She said there are spot trades in LNG today, but she didn't see any reason that long-term oil and gas prices have to be related other than on the replacement cost of oil and gas. In a period of high oil prices, equipment and services costs go up and that affects gas, too.

4:06:58 PM
MS. KAH came to the controversial slide, slide 22, that she created by taking a point from a NYNEX futures graph to illustrate a point, but she didn't know why it was controversial. She remembered talking to a lot of foreign LNG suppliers who were very enthused about sending LNG to the U.S. because prices were inflated as a result of the hurricanes in 2005. The suppliers looked at the forward curve and thought life is good. Economists, however, didn't think the price would last even though the forward curve was saying it would.

Looking at what happened one year later you can see that nobody would be able to get that price right. She said she actually trusts the futures market more than consultants' forecasts because they are putting real money on the line based on their view of price. So, what she is saying is that if you can't even get the price right, because of things that change within one year, how could you do that over a 30-year time period – when you have things like the light bulb on the horizon.

4:08:47 PM
MS. KAH went to slide 23 that showed the volatility of the Henry Hub price over 30 years. She said she used a statistical definition of volatility which is "the standard deviation divided by the average price for that period." "Standard deviation" is the variants of each of those months relative to the mean of that month. So you're trying to understand the dispersion of all the months relative to the average. The slide showed that volatility for gas prices, both on a one-year a five-year average basis, has been increasing over time.

She explained that when ConocoPhillips makes investments they don't care about prices going up or down within a year or two, but the problem with volatility is you can't even tell what the basic average (or equilibrium) price is today let alone what it will be 10 or 30 years from now. She showed the Department of Revenue's projection of lower prices saying she is not the only one concerned about the increase in volatility. She summarized: "So, volatility masks our understanding of what the average price is."

4:11:17 PM
MS. KAH ended with slide 25 of the U.S. DOE's forecast for natural gas wellhead prices that she said was extremely humbling because it was compared to a line that showed what actually happened. It the early 80s they were clearly wildly optimistic about what the price would be and in the late 90s and 2000 they grossly underestimated what the price would be. Her only point is that no one can predict the price of gas and certainly not a decade or 20 years later.

> So, this project which depends on prices and price risks which nobody can take away - which the companies that need to sign the take or pay shipping agreements need to bear this risk – this project is very risky.

She asked people to remember this as they review the framework that is necessary to go forward with the pipeline.

4:12:10 PM
SENATOR WIELECHOWSKI asked if page 7 shows an ongoing decline of natural gas production in the U.S.

MS. KAH replied yes. Three years ago when the National Petroleum Council did the gas study, they believed that existing wells in the Lower 48 were declining by 30 percent per year. This means you have to replace 30 percent of production each year before you can even talk about growth. This is huge and is what convinced her there is a need for this natural gas pipeline. She did point out, though, that the decline rate is actually slowing and today it looks more like 12 to 15 percent. What has changed is the amount of unconventional gas, like coal bed methane, that is increasing rapidly - and it has a much slower decline rate. Economists know that conventional gas production in the Lower 48 is tapped out and that additional supplies are not coming from there either.

SENATOR WIELECHOWSKI said the ConocoPhillips website from a report dated April 9, 2007 said "The ongoing decline in the United States natural gas production is a significant concern among industrial gas users, the natural gas industry and government bodies" and asked her if she agreed.

MS. KAH replied, "Absolutely." She said she probably wrote that statement.

SENATOR WIELECHOWSKI asked if she also agreed that there is a tremendous need by electrical industry to obtain new natural gas because of its clean burning characteristics.

MS. KAH answered yes, but she fears that other consumers will make different choices.

SENATOR WIELECHOWSKI asked if she had advised ConocoPhillips to stop exploring for natural gas in the U.S. based on the incredible risk there.

MS. KAH replied that first of all, exploring for gas in the Lower 48 over the next 5 years has virtually no risk. The risk comes when you're talking post-2012 when people would be bringing on these new power plants. So, it makes her nervous when people are working on LNG projects to bring gas to the U.S. post 2012.

SENATOR WIELECHOWSKI said in spite of that nervousness, ConocoPhillips has proceeded with LNG facilities in Qatar, Nigeria and other places.

MS. KAH replied yes it is and the reason is because they think that the fiscal and regulatory frameworks of those arrangements they have with those countries make the overall risk/reward profile acceptable enough that they are willing to take that risk. "Because, remember, our business is to do mega-projects and to take price risks. That's what our shareholders want us to do."

SENATOR WIELECHOWSKI said just last year ConocoPhillips was willing to sign a contract with Alaska to build the gasline and he asked if the risk changed a whole lot in the past year.

MS. KAH replied yes it had on the cost side. Absolutely! They are seeing continuing double-digit inflation.

SENATOR WIELECHOWSKI asked why she couldn't predict that last year when she did her economic modeling.

MS. KAH replied that last year she didn't predict that costs would rise at the rate they did.

SENATOR WIELECHOWSKI said she was saying that her predictions were off significantly last year and asked if it was fair to say her predictions could be wildly off in the future.

MS. KAH retorted that she hadn't shown them any of her predictions and explained:

> And actually I'm a scenario planner. I don't believe anyone can predict the future. So, what I do is look at a series of scenarios of what could happen to gain an understanding of what the risks are in the future, but I don't pretend to be able to predict any of these things. And anyone who claims they do, I wouldn't believe them.

4:16:49 PM
SENATOR WIELECHOWSKI said the state in its presentation had talked about the rates of return for the upstream producers, net present value and the financials. The rates of return ranged from 29 percent when gas was at $3.50 up to 90 percent when it was at $8.00. He asked if she had any data that would dispute that.

MS. KAH replied that she was sorry she missed the presentation and hadn't done that analysis herself. She countered by asking him if he would believe those numbers given all the cost increases she had just shown them.

SENATOR WIELECHOWSKI replied that he was not an economist and relies on experts and this expert was hired by the legislature last year and he had to put some faith in him. He was independent and didn't have a reason to be biased.

MS. KAH said she would have to see the assumptions he used.

WENDY KING, Manager, ANS gas development, ConocoPhillips, said they had not seen the materials, but she had some questions with what she had heard.

4:18:42 PM

SENATOR WAGONER said the main difference he sees in the ability to build a coal-fired plant versus a gas-fired plant is going to be CO2. "That's going to rule the day one of these days." He asked what she thought would happen legislatively with sequestration of CO2.

4:19:43 PM
MS. KAH replied that we appear to be moving towards some kind of a economy-wide cap-and-trade system and maybe a carbon tax. The question is at what level it is set. She has heard talk about $5 to $10 a ton of CO2 avoidance and at that level she wasn't sure it would have any impact on the decision of whether to build a coal or gas-fired power plant. It would have to be set high enough to make people change their investment decisions. So the question then becomes does the U.S. have the political will to actually set those CO2 avoidance values at a high enough level to actually make people change their behavior. That is a big question in her mind.

4:20:09 PM
SENATOR STEDMAN said that slide 8 compared GDP growth and electric sales in a decade and he asked if she could give them a longer time frame.

MS. KAH said she would do that and added that what they would see going back far enough is a one-to-one relationship between electricity growth and GDP growth. Over time as the U.S. has become more of a service economy and less of an industrial economy, it would come down. But, again, she said:

> It's the abruptness of what happened in the last five years that I find disturbing and probably related in some ways that I've speculated due to higher prices, but I would be happy to find that data for you.

CHAIR HUGGINS thanked her very much for her presentation and invited Mr. Hartig to introduce himself.

4:21:22 PM

SB 91-POLLUTANT DISCHARGE PERMITS

4:21:42 PM
CHAIR HUGGINS announced SB 91 to be up for consideration.

LARRY HARTIG, Commissioner, Department of Environmental Conservation (DEC), introduced the SB 91. He said this issue is

important to the Governor because it is essential for the state to gain NPDS primacy – that's the right to issue water discharge permits in the state of Alaska. Currently, EPA does that out of its offices in Seattle. Primacy in this bill is also very important to the public and it is one of the top five issues raised in the transition team's report to the Governor.

COMMISSIONER HARTIG said primacy is important to industries in the state that require NPDS permits. A series of workshops has been going on for the last three years in which industry has gone through the issues it sees with the state gaining primacy and they are very supportive of it and are even willing to pay fees just to see it happen.

Primacy is not new, he said; it goes back at least to the Knowles Administration and perhaps further than that. In 2005 the Alaska legislature directed the DEC to pursue primacy. Since then a lot of effort has been put into getting it and it the state has spent about $3.7 million so far in hiring people and training them, getting the regulations and statutes drafted and preparing the application to EPA.

COMMISSIONER HARTIG emphasized that this is not major legislation, but it is critical. It is part of the state's application for primacy, which also includes the regulations, the statutes, description of program, and a statement from the Attorney general that DEC has the necessary authorities. The EPA looks at that as a whole package as it decides whether to allow the state primacy or not. If a piece is missing, the whole process is stopped.

4:26:53 PM
CAMERON LEONARD, Assistant Attorney General, Department of Law, highlighted the three major and the three lesser changes. He began with section 1, which he said should be read in conjunction with section 5 because they both deal with monitoring, sampling and reporting the DEC can require of permitees or of facilities outside of the permit. This is important because conditions that are placed in permits can be enforced by third parties through what are known as citizen suits. So, DEC needs to have the same authority that EPA has to require monitoring either in permits (the part addressed in section 5) or outside of permits (address in section 1). EPA raised the concern that the state's law was not as stringent as the federal law in these sections. So all sections of the bill are designed to align state law with the federal requirements.

4:28:42 PM
MR. LEONARD said that section 2 was less substantive and 1 of 3 sections that deal with terminology. The federal law uses somewhat different terminology from state law and speaks of "discharges of pollutants" whereas Alaska law talks about "disposal of waste material". EPA's concern again is that the state's terms be as broad as theirs. So the state's law has been tweaked to borrow federal terminology.

4:29:39 PM
SENATOR STEVENS asked him to define what the waters of the United States means in terms of Alaska.

MR. LEONARD replied that the definition of "waters of the U.S." is dynamic and controversial and is the subject of recent Supreme Court opinions. He didn't know that there was any significant difference. But in order to get a program approved by EPA the state has to essentially have the same scope of coverage that it has and the easiest way, and maybe the only way, to do that is to use the same terminology. The definition used by the EPA is in federal regulation and goes on for one and a half pages. So, he wouldn't read it at this time.

4:30:56 PM
SENATOR WIELECHOWSKI asked what was deleted at the end of section 2.

MR. LEONARD replied that redundant language was taken out and it was making it consistent with federal language. He said the reason the change is proposed for section 4 is the DEC cannot exclude activities from the permit requirement any more broadly than federal law does. Under federal law, persons discharging domestic sewage into a publicly-owned treatment work (POTW) don't need a permit. The way it reads now if a person is discharging into a sewerage system, he doesn't need a permit, but that term is defined broadly in state law and would include, for example, conduits that didn't require any treatment at all. So, this is one area where EPA said that state law is not as inclusive as federal law.

4:32:49 PM
MR. LEONARD said that section 3 is less substantive and simply clarifies that the department is the one that decides what form of authorization to use for a particular activity – again, responding to an EPA concern.

MR. LEONARD said section 4 is substantive with and deals with three issues. They are all exclusions to the requirement that people obtain a permit. He'd talked about the one for domestic sewerage into POTWs where "surface water of the state" was changed to "waters of the United States" to make it align with the federal terminology. The third issue, "(e)(7)", in section 4 has to do with munitions, which are included in the definition of a pollutant under the Clean Water Act. So if one discharges munitions at an active range and that discharges into waters of the Unites States, you need a permit. So, again, the breadth of state exclusion language had to be cut back.

CHAIR HUGGINS asked if EPA does the permitting for Eielson Air Force Base and if the state will be taking over permitting on military ranges.

MR. LEONARD replied that it's all done through EPA right now, but if this bill passed, the state would take over permitting on the military ranges.

4:34:41 PM
SENATOR WIELECHOWSKI asked what if the munitions were discharged into a salmon stream, not waters of the United States.

MR. LEONARD replied if this change were to be made, the exemption would only apply if it wasn't into waters of the United States.

SENATOR WIELECHOWSKI asked what kind of pollutants are in munitions.

MR. LEONARD replied white phosphorus, but he wasn't an expert.

SENATOR WIELECHOWSKI asked if pollutants from munitions were significant.

MR. LEONARD replied that he couldn't speak to that. It's included in the definition of pollutant so it has to be covered.

CHAIR HUGGINS added that there is lots of pollution from munitions.

4:36:13 PM
MR. LEONARD said that section 5 was tied to monitoring requirements and he characterized sections 6 and 7 as clarification of terminology that "waste materials" includes "pollutants" which is what federal law uses.

4:36:46 PM
He said section 8 deals with a substantive issue. He explained that under the Clean Water Act, negligent violations of the NPDS can subject the violator to criminal enforcement. Under state law in contract, DOL could only pursue criminal enforcement if the violations were done with gross negligence and those are defined differently in the law – gross negligence being a higher level of negligence. EPA pointed out the DEC was requiring a higher state of culpability to support criminal enforcement than was required under the federal law. So, the bar needed to be lowered. Section 8 changes current state law that provides for criminal penalties for violations of DEC statutes and says for this program only mere negligence would support criminal sanctions.

4:37:58 PM
CHAIR HUGGINS asked where the provision is that requires sampling.

MR. LEONARD replied section 1 deals with it outside of the context of a permit; section 5 deals with the same subject, but within the discharge permits.

4:38:17 PM
SENATOR WIELECHOWSKI asked how many additional state employees will be needed to assume primacy.

4:38:39 PM
LYNN KENT, Director, Division of Water, Department of Environmental Conservation (DEC), answered that the legislature passed SB 110 in 2005 that directed her to proceed with primacy and it had a fiscal note. So, implementing this program is already in DEC's base budget. Hence, this bill has a zero fiscal note. She clarified that the resources came with SB 110 and the number of positions that include both the existing program and the new positions that will implement the program when it's approved by EPA total 43 positions.

SENATOR WIELECHOWSKI asked how much assuming primacy would cost the state.

MS. KENT replied that the existing program requires that the state review all of the EPA permits and certify that they comply with the state's water quality standards. It is kind of a parallel program in terms of permitting with EPA. The incremental cost to get from the program to the NPDS program is

about $1.5 million. That was the amount that was in the SB 110 fiscal note.

4:40:16 PM
SENATOR STEVENS said he understood that industry would pick up a major share of the cost. He asked if the state assumes primacy, would industry still pick up a major share of the costs or is the state assuming more.

MS. KENT replied that the program is designed to rely upon the existing state policy for the fee it charges for direct services. So, under SB 361 a number of years ago, DEC charged for its direct services, which they do for state certifications of the federal permits today. With NPDS primacy, that same fee structure will apply, but it will go up a little bit to reflect the state's additional work load. The fiscal note for SB 110 estimated that at full implementation of primacy, about $300,000 of the $1.5 million would be replaced with fees as opposed to general funds.

SENATOR STEVENS asked if industry would pick up about 70 percent.

MS. KENT couldn't recall the actual percentage, but it was somewhat less than 70 percent.

4:41:48 PM
SENATOR STEDMAN asked how many states have primacy and how many don't.

MS. KENT replied that 45 states already have primacy; Alaska will make the 46th. She said the Clean Water Act actually envisioned that states would run the program rather than EPA.

CHAIR HUGGINS asked what the state has learned to date in terms of industry support.

4:42:56 PM
COMMISSIONER HARTIG replied that more people in industry support this than ever before. Timing is everything and if you have a real large project, no matter what the industry is, even one month's delay is extremely expensive. He said one of the other primary drivers is getting modifications to permits. He explained that the permits have a five-year life under the Clean Water Act. So, any time there is any minor change to a discharge even the frequency, a modification is required. Under EPA regulations, you have to go through the same public process as

getting the original permit. So, they are very reluctant to issue modifications, which holds up businesses, too.

COMMISSIONER HARTIG said the DEC is getting a lot of cooperation from EPA in turning this program over to the state. During all the discussions, an awareness has developed about the benefits of having local people be responsive to the local businesses and government in writing these permits. So, there has been more of a consensus and people are becoming more comfortable with the state's level of competence.

4:46:37 PM
CHAIR HUGGINS asked, assuming this bill passes this session, when would the state actually take primacy.

COMMISSIONER HARTIG replied that the plan right now is to go back to the EPA with revisions to the draft application this fall and they will turn it around and the state will have primacy by this time next year. There will be a three-year phase-in.

CHAIR HUGGINS asked if EPA would retain oversight.

COMMISSIONER HARTIG replied yes EPA retains the authority and duty to review permits. EPA can veto permits.

4:49:15 PM
CHAIR HUGGINS asked if he had concerns about operating in the military environment in the state.

COMMISSIONER HARTIG replied no; his own experience with DEC is that the military has worked with them if something comes up.

4:49:53 PM
SENATOR GREEN asked if any changes that are made to the U.S. code would automatically be picked up by the state.

MR. LEONARD replied yes.

SENATOR GREEN asked if the term "waters of the United States" has any reference in SB 91 that would lead someone to the definition in U.S. Code.

MR. LEONARD replied that actually that term is not defined in the U.S. code; it is defined in the federal regulations and it is also not defined in this bill; it is defined in the state

regulations that implement this bill. He offered to get those for her.

SENATOR WIELECHOWSKI asked if all little creeks in Alaska, like Chester Creek, are considered waters of the United States.

MR. LEONARD replied that generally they are all considered waters of the U.S., but it is an area of ongoing litigation. Chester Creek is definitely waters of the U.S. – as long as it is a tributary.

4:51:44 PM
VICKI PORTWOOD, Executive Officer, Alaska State Homebuilder's Association, supported SB 91. She explained that right now her members struggle with having any kind of a relationship with EPA personnel who come up and get off the plane, inspect the job sites, fine the company and then get back on the plane and go back to the Lower 48. There is no one to talk things over with – to help mitigate their problems and to learn what it is that they are doing incorrectly.

4:54:17 PM
CHAIR HUGGINS asked if the EPA scenario Ms. Portwood talked about was common.

COMMISSIONER HARTIG replied that his impression is that it is fairly common. EPA has one permit writer in the state of Alaska and he didn't know how many in Seattle, but a majority of the permits are written out of Seattle and a majority of the enforcement is out of Seattle as well.

CHAIR HUGGINS asked if Alaska had this authority, what would its presence look like to industry.

MS. KENT replied that DEC intends to have a compliance and enforcement that is as stringent and as expansive as EPA's program. So their goals would mirror EPA's and that is to inspect every major facility once a year and to inspect the minor facilities once every five years - so they would definitely have a field presence. She intends to have staff located in Anchorage, Fairbanks and Juneau.

4:55:18 PM
SENATOR GREEN moved Amendment 1 as follows: On page 4, line 4, to delete "listed" and insert "as defined" following "pollutants" and on page 4, line 10 insert "and(d)" following "(a)".

MR. LEONARD said that both changes are minor tweaks and really just reflect the fact that they were running out of time between concluding their discussions with EPA and getting this bill introduced. EPA made these suggestions a few days after discussions were finished.

4:56:37 PM
On the first change the EPA didn't want it to be implied that only the list was incorporated. The second one only makes sense if you look at AS 46.03.790 to see what it says now, but the basic concern underlying this change was section 790(d) that deals with oil spills. The EPA was concerned that because oil spills are in violation of the act when there's no permit for someone to discharge oil into the water, that they have the same state of mind of negligence to enforce criminal enforcement for oil spills. Their concerns were addressed by adding "and (d)" after "a".

SENATOR WIELECHOWSKI asked if this means that an organization that negligently spilled oil would still potentially be guilty of a Class A misdemeanor.

MR. LEONARD replied yes. Basically, it means there is a choice of which enforcement tool to use. You can only get up to a Class A misdemeanor under new section 790(i).

> If the spill is big enough, you can go under the existing 790(d) and pursue felony charges, but then you would have to meet the higher standard of criminal negligence or alternatively, you could do civil enforcement and seek penalties. So, the state would have that choice if this bill were to be amended and passed.

4:59:40 PM
Amendment 1 was adopted without objection.

4:59:55 PM
SENATOR STEDMAN moved to pass from committee SB 91, as amended, with individual recommendations. There were no objections, and CSSB 91(RES) moved from committee.

5:00:21 PM at ease 5:05:26 PM

SB 44-APPROP: FIRE ISLAND WIND FARM

5:05:37 PM
CHAIR HUGGINS announced SB 44 to be up for consideration.

SENATOR MCGUIRE, sponsor of SB 44, said the history behind the issue began in the 1970s when oil revenue came on line through TAPS and $500 million was set aside for what was called the Susitna Rive project, a specific project, but the concept was to help fuel the Railbelt. Later, in 1985, the Susitna project was cancelled and $340 million was left and that is when the Railbelt Energy Fund was created. The idea behind it was that the Fund would fuel projects that help improve the grid along the Railbelt. They talk about the Northern Intertie and the Southern Intertie. The Northern Intertie consists of Fairbanks and friends and they have succeeded in using a large portion of that money to help improve their grid. She provided the committee with a list of projects and noted some projects were off the Railbelt – places like Kodiak, Valdez, Glennallen, Southeast Four Dam Pool and power/cost equalization (which has nothing to do with the Railbelt).

SENATOR MCGUIRE said SB 44 proposes to use a portion of the Railbelt Energy Fund for what it was created for and that would be to help improve power production and distribution to Southcentral Alaska. The concept is that $24 million would be distributed through the Department of Commerce, Community & Economic Development through a system that was set up by the legislature by which grants are distributed. So, she is not proposing something unusual. This money would go towards the building of critical infrastructure.

The federal government also has an incentives package that expires on December 31, 2007. So, there is an opportunity to have some federal assistance in this project. The partners in it now include Cook Inlet Regional Incorporation (CIRI) that owns the land the wind generators would be located on.

5:09:35 PM
The concept is that roughly 33 wind turbines would be built on Fire Island on a site that has been carefully crafted to maximize a desirable level of wind. She pointed out that Alaska is well behind the alternative energy curve and 30 states now have wind turbines as a major source of energy for their communities. She said that Canada and Europe have used wind power for over a decade.

SENATOR McGUIRE explained that what is unique about Cook Inlet is that their homes are sitting either directly on or close to

some very serious hydro-carbon reserves, but developing that gas won't happen in enough time to serve the needs of the community. Right now Anchorage depends on natural gas for 85 percent of its residential and commercial needs. It is estimated that in the next seven years, they will not have the energy they need.

She said depending on their size, turbines generate 1.5 to 3.6 megawatts of electricity that could extend service to Southcentral and as far north as Fairbanks. This is the reason Golden Valley Electric is interested in this project. That community is suffering more than hers.

5:12:33 PM
She said there is a lot of politics in this area and she would hate to see a good idea that follows the principals of the Railbelt Energy Fund to fall by the wayside because of it. She concluded that it is time to do this project. It isn't replacing the hydro-carbon industry in this state, but supplementing it.

SENATOR McGUIRE said the planning and feasibility are well under way and a contribution of $24 million from a fund that was designed to help put power into the grid seems to her to be a pretty good bill.

5:13:53 PM
MARIT CARLSON-VAN DORT, staff to Senator McGuire, said she was available to answer questions.

JAMES POSEY, General Manager, Anchorage Municipal Light and Power (ML&P), said he is an officer with the Alaska Railbelt Energy Authority (AREA). He said ML&P serves about 29,000 customers in Anchorage and the AREA was formed by three of the largest utilities – Golden Valley Electric, Chugach Electric (CEA) and ML&P one and a half years ago.

He said the utilities have concluded that Fire Island could provide good wind and renewable energy. It would have ample expansion acreage to support a major wind facility and one that would be located near the Railbelt system's largest load center and which would provide a source of clean renewable energy. CEA, ML&P, CIRI and Homer have continued research on the Island this year to keep the project going. Getting clean power is important; infrastructure support is important for the connectivity that is required in this medium-sized load center called the Railbelt area.

5:16:38 PM

CHAIR HUGGINS asked after the first few years of the project what would the price per kilowatt hour be.

MR. POSEY replied 6.5 cents to 9 cents per kilowatt. He currently charges 8.5 cents.

SENATOR WAGONER asked what costs are figured into that kilowatt price.

MR. POSEY replied that the kilowatt price is just the cost of putting up the turbines and delivering the power that comes out of them. The infrastructure support is the connectivity – the line to the Island and transformers, as well as roads and a little dock. He said the merchant industry puts them up and owns them for 6 – 12 years until the tax credits are done and then generally his area would look at running them for the next 30 to 40 years. There are lots of different ways to approach that. The 6.5 cents to 9 cents would be a long term price.

5:18:13 PM
SENATOR WAGONER asked if that figure included the price to be paid to CIRI for the location lease.

MR. POSEY replied yes, and they would be an owner of the wind turbines as well.

CHAIR HUGGINS explained that the committee had to adjourn for other meetings; public testimony on SB 44 would continue at the next hearing. He then adjourned the meeting at 5:19:30 PM.