ALASKA STATE LEGISLATURE
JOINT MEETING
SENATE RESOURCES STANDING COMMITTEE
HOUSE RESOURCES STANDING COMMITTEE
HOUSE SPECIAL COMMITTEE ON OIL AND GAS
February 15, 2001
12:10 p.m.

SENATE RESOURCES MEMBERS PRESENT

Senator John Torgerson, Chair
Senator Rick Halford
Senator Pete Kelly
Senator Robin Taylor
Senator Kim Elton
Senator Georgianna Lincoln

SENATE RESOURCES MEMBERS ABSENT

Senator Drue Pearce, Vice Chair

HOUSE RESOURCES MEMBERS PRESENT

Representative Drew Scalzi, Co-Chair
Representative Hugh Fate, Vice Chair
Representative Joe Green
Representative Mike Chenault
Representative Gary Stevens
Representative Beth Kerttula

HOUSE RESOURCES MEMBERS ABSENT

Representative Beverly Masek, Co-Chair
Representative Mary Kapsner
Representative Lesil McGuire

HOUSE OIL AND GAS MEMBERS PRESENT

Representative Scott Ogan, Chair
Representative Hugh Fate, Vice Chair
Representative Fred Dyson
Representative Mike Chenault
Representative Vic Kohring
Representative Gretchen Guess

HOUSE OIL AND GAS MEMBERS ABSENT

Representative Reggie Joule

OTHER LEGISLATORS PRESENT

Senator Gary Wilken
Senator Loren Leman
Senator Donald Olson

Representative Jeannette James
Representative Carl Morgan
Representative John Davies
Representative Eric Croft

COMMITTEE CALENDAR

PRESENTATION ON LNG MARKET IN JAPAN AND ASIA AND ALASKA'S POSITION IN THAT MARKET BY MR. SHIGERU MURAKI, GENERAL MANAGER, GAS RESOURCES DEPT., TOKYO GAS CO. LTD., ASSISTED BY MR. JEFF LOWENFELS, PRESIDENT, YUKON PACIFIC CORPORATION (WHO ARRANGED HIS VISIT)

PREVIOUS ACTION

No previous action to record

WITNESS REGISTER

SHIGERU MURAKI, General Manager
Gas Resources Department
Tokyo Gas Company Ltd.
1-5-20 Kaigan, Minato-Ku
Tokyo, 105-8527, Japan
POSITION STATEMENT: Gave a presentation and answered questions.

ACTION NARRATIVE

TAPE 01-13, SIDE A [Senate Resources tape]
Number 001

CHAIRMAN JOHN TORGERSON of the Senate Resources Committee called the joint meeting of the Senate Resources Standing Committee; the House Resources Standing Committee; and the House Special Committee on Oil and Gas to order at 12:10 p.m.

CHAIRMAN TORGERSON introduced Mr. Shigeru Muraki, General Manager of the Gas Resources Department of Tokyo Gas, the

largest gas company in Japan and the second-largest importer of LNG [liquefied natural gas] in the world. He stated that Japan has been a customer of Alaska since 1969; for over 31 years, Alaska has been shipping LNG to the Tokyo Gas and Tokyo Electric Power Company from the Phillips Marathon Plant located in Representative Chenault's district in Nikiski.

SHIGERU MURAKI, General Manager, Gas Resources Department, Tokyo Gas Company Ltd., told listeners that Alaska's LNG supply is the second LNG project in the world and the first in the Asian Pacific. Algeria's started in 1964 and stopped ten years ago. Alaska has the longest LNG trade history in the world with Japan, which started importing LNG in 1969. Korea started importing in 1986 and Taiwan in 1990. The growth rate was 12.8 percent per year. Due to the economic slowdowns in this region, the growth rate slowed to 4.6 percent for the last three years.

MR. MURAKI noted that in 1999, three countries imported 69 million tons of LNG: Japan, 52 million tons; Korea, 13 million tons; and Taiwan, 4 million tons. The LNG was imported from seven countries: United States (Alaska), Brunei, Indonesia, Malaysia, Australia, Abu Dhabi, and Qatar. In 2000, Omar started to supply gas, and now eight countries have contracts for 77 million tons with three importing countries.

MR. MURAKI said most countries are trying to liberalize the market, which is creating competition in the Asian energy market. Due to increased concerns for the environment, particularly global warming and the efficient use of energy, the role of natural gas is increasing; Mr. Muraki said he thought it would become the primary fuel of the 21st Century.

MR. MURAKI noted that Japan uses 13.2 percent and Asia uses 10.7 percent, which are very low compared to the U.S. He said oil and coal are still dominant in the Asian markets. The main reason is that the discoveries in Asia are a long distance from Asian markets. He said there was a lot of room for expansion of the LNG market in Asia.

MR. MURAKI informed members that the amount of gas reported by the International Gas Union (IGU) in 2000 was 3.4 percent growth a year in Asia and 3.5 percent in East Asia. The energy demand growth for the next ten years is expected to be 2.2 percent per year in the world and as much as 5 percent in Asia. He said LNG will increase from 10 percent to more than 60 percent in 2030.

MR. MURAKI followed with this review of the energy markets in

Japan, Korea, Taiwan, Indian, and China:

JAPAN

MR. MURAKI first addressed Japan, a small country with 238 gas utilities, most of them very small. He informed listeners that discussions of further liberalization of the gas market just started in January 2001. The major issues will be the expanded liberalization of the market and open access to LNG terminals and pipeline networks for all the gas companies in Japan. In the electricity industry, wholesale bidding was introduced in 1996. Nine power utilities regionally dominate the market in Japan. Forty-one independent power producers (IPPs) total 6,725 MW, with four gas-fired projects producing 733 MW. This is because gas cannot compete with coal and oil. All new entrants are required to go through the bidding system.

MR. MURAKI noted that most consumers are eligible to purchase electricity from independent power suppliers. This liberalized market represents about 30 percent of the total power demand in Japan. Several companies have already announced to participate in this new market. One of them is Tokyo Gas Company, which created a joint-venture company with Osaka Gas and Nippon Telephone and Telegram (NTT), one of the largest electricity consumers. Also, E Power, a joint venture by Orix and Enron of the U.S., plans to participate.

MR. MURAKI advised listeners that discussions for the next step of the liberalization of the power market will start soon. Major issues will be the expansion of the liberalized market and the possibility of introducing the power-pool system. The slowdown in the Japanese economy could have some impact on these discussions and on countries that are totally separated geographically; he mentioned the existence of certain impacts on the next step of the liberalization of gas.

MR. MURAKI showed the committee a graph of the LNG demand in Japan issued by the Ministry of International Trade and Industry (MITI), which is now called METI. The graph showed that in 1998, energy demand in 2010 was predicted to be 61 Mt under moderate energy demand growth of 1.1 percent per year. However, considering the slow development of nuclear power and increased concern of greenhouse gas emissions, he thought that LNG demand could reach 70 Mt in 2010, an 18-Mt increase from 1999, requiring more than 15 Mt of additional supply to Japan by 2010. They already have contracts for 55 Mt. He noted that Japan is still struggling with recovery from the recession, and energy

demand growth can be lower than 1.1 percent a year. However, Mr. Muraki thought 70 million tons of LNG demand could still be an achievable level.

KOREA

Number 200

MR. MURAKI turned attention to Korea, where liberalization of the electrical industry is moving ahead. He said "unbundling" of the Korea Electric Power Company and liberalization of the power market were approved by Parliament in December 2000. The power generation sector will be unbundled, privatized, and separated into five companies by 2002. They will liberalize the wholesale market during 2003 and the retail market after 2009. Nuclear power and hydroelectric power will be owned by the government in different companies, and private companies will own the natural gas, coal, and oil power-generation plants.

MR. MURAKI noted that plans for liberalization of the gas power industry were announced in November 1999, the same time as for the power industry; however, they are still under discussion. Liberalizing LNG imports will occur this year. Korean Gas Corporation (KOGAS), the sole importer of LNG in Korea, owns LNG terminals and trunk pipelines to distribute gas to the power stations and local gas utilities. Korean Gas Corporation in the current plan will be separated into one company that will own LNG terminals and pipelines and three LNG importers. He stated, "So anyone can import LNG to the market through the LNG terminals and pipelines owned by one company." When that plan will be implemented is not clear yet, he added.

MR. MURAKI showed the committee a graph of demand in Korea. He said energy demand was to be 22 Mt in 2010; this was shown by MOCIE, which is the government agency to regulate energy markets. The previous estimate was 29 Mt. He further reported that in September 2000, Korean Energy Economics Institute (KEEI) issued a median energy demand forecast that indicated higher demand growth than the government predicted. This is because of the recovery of the economy. In this forecast, LNG demand is expected to increase to 24.6 Mt in the base case, 28.3 Mt in high case, and 19.5 Mt in low case, which is still higher than the government forecast (18.5 Mt). He thought the high case and the base case were unlikely to happen because no one can commit to a new supply source right now. He predicted about 30 Mt of LNG demand in 2010 in Korea.

MR. MURAKI said Korea may need an additional supply of LNG before 2005 because it has 17 Mt of LNG contracts currently. If the KEEI case becomes a reality, much more LNG will be needed by 2005. He summarized that Korea needs it before 2005 and Japan needs it after that time.

TAIWAN

Number 300

MR. MURAKI explained that Taiwan is a relatively smaller market compared to Japan and Korea. Liberalization of the market is advancing very slowly there. The IPP bidding system was introduced in 1995 and six natural gas-fired IPPs were approved last July. Natural gas is becoming the primary energy for new power capacity in Taiwan.

MR. MURAKI reported that privatization of the Chinese Petroleum Corporation (CPC), the sole importer of LNG in Taiwan, and Tai Power Company (TPC) are planned for this year, but it's unlikely to happen until next year; together they consume about 1.8 Mt of LNG, and new LNG importers using new LNG terminals will be suppliers of gas. Taiwan has only one terminal now, with the second terminal being built by Tatan Power Station, giving Taiwan more space for imported LNG.

MR. MURAKI said that CPC predicted LNG demand to be about 10 Mt in 2010 - the maximum capacity that could be brought to the existing terminal. Tokyo Gas predicts an LNG demand of 13 Mt. in 2010, partly because of concern with the so-called greenhouse effect. Nuclear development was a commercial issue, but the government decided not to deal with a nuclear power plant; instead, it will probably build the power station. This has had an impact on the LNG demand. The 13 Mt estimate was before the government decided not to build the plant.

INDIA

Number 340

MR. MURAKI said the market in India will be really big, but Alaska is too far away to supply it. Dabhol Power is planning to start importing LNG this year and already has contracts with Middle East suppliers - Oman and Abu Dhabi - for a total of 2.1 Mt of LNG. A company owned by Dabhol and Indian Enterprises is planning to build a pipeline to distribute gas to the Indian market and is negotiating a contract for 2.2 Mt with Malaysia.

This will be the first LNG project in India.

MR. MURAKI said that in addition to the Dabhol project, there are several projects being planned in the states of Gujarat, Maharashtra, and Tamil Nadu. He said some of these projects already have contracts or letters of agreement with suppliers - mostly from the Middle East because of its location. Mr. Muraki said, "I see between 10 to 15 Mt of LNG demand could be created in 2010. Some say 25 Mt, but because of the economy, they cannot import that much LNG in ten years' time."

CHINA

MR. MURAKI turned attention to China, which he said could be the potential market for Alaskan gas. The first project is planned for Guangdon Province near Hong Kong. It will start by importing 3 Mt of LNG from 2005 and increase its imports up to 5 to 6 Mt by 2010. China is now in the process of selecting a foreign partner. Its short list of companies includes BP, ExxonMobil, Shell, and an Australian company; one will be selected. The other potential LNG markets are in the Yantsu Delta area, where Shanghai is located (the largest natural gas market in China), and Fujan Province, located between Guangdong and Shanghai. The Chinese government is planning to build a pipeline over 2200 kilometers to Shanghai.

MR. MURAKI noted that at this time, the Chinese government gives priority to the pipeline project. He said he didn't know when the second LNG project will be started in China, but one terminal can receive up to 6 Mt. If the second project is realized before 2010, Tokyo Gas predicts that demand could reach 9 to 10 Mt in China.

MR. MURAKI told listeners that in 2005, the five countries combined will demand between 83 to 96 Mt, and in 2010, between 108 and 137 Mt. Existing LNG projects will continue to fill 80 Mt of demand through 2010. "In 2005, in the high case, around 50 Mt of additional supplies will be required in mainly Korea, India and China," Mr. Muraki said. Japan's additional demand for 2005 and 2006 has already been secured through negotiations with new projects, mainly Malaysian and Australian expansion. Japan needs additional supply after 2006, Mr. Muraki said. He reiterated that demand in 2010 will require a large volume of natural gas to supply the growing Asian market in addition to the 80 Mt under existing contract.

MR. MURAKI said Southeast Asia and Australia will remain the

major suppliers to East Asian markets. The Middle East will continue to supply East Asia, because they have 20 to 25 years of contracts. Because of its geographical location, they can supply India and possibly Europe (LNG or pipeline). Southeast Asia may have gas, Mr. Muraki said, but they plan to build a regional pipeline network to get gas to their counties to facilitate industrialization. Gas exports would be limited for this reason. He stated:

> Alaskan North Slope and Sakhalin gas are important potential supplies to the East Asian market, which can improve the stability of LNG by diversification of the supply sources. This is very important for Japan and Korea, who are net importers of energy. Those countries have too much dependence on Middle East supply. ...
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> Sakhalin and East Siberia have the potential to supply gas to China, Japan and Korea by pipeline, as well. Currently, feasibility studies of pipelines from Sakhalin to Japan and pipelines from Yakutsk in Siberia to China are underway. Considering this potential supply, I believe there will be the addition of natural gas supply, including Alaskan North Slope gas, to support this growing demand in Asia."

CHALLENGES LNG IS FACING

MR. MURAKI told listeners:

> Liberalization of the market is creating sharpening competition in an energy market in fuel competition and gas-to-gas competition, particularly in the growing industrial commercial market and power-generation markets. Power-generation markets are very important. It is the same as the United States and Europe.
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> It is becoming more and more important for LNG and natural gas to achieve the competitive pricing and higher productivity to increase its share in the LNG price. LNG in the Asian market is indexed to the crude oil price, which has been well accommodated in the market, because LNG has been an alternative energy to crude oil and oil products in the Asian market. However, natural gas is becoming one of the major energy sources, and it is probably the timing to

consider the new market oriented pricing mechanism.

MR. MURAKI said stable income can create a secure financial return for the project. Achieving cost reduction in transportation is also important, because LNG carriers are very expensive. They carry about 60,000 tons of LNG and cost $160 million. He said Tokyo Gas will be building two new LNG carriers, and will design them to be versatile in different marine conditions. He stated, "These ships are designed for ice resistance, which can make the ships come into Alaskan waters, like Cook Inlet."

MR. MURAKI said long-term contracts will continue to be the base of the LNG trade. In addition, he explained that LNG cannot become a commodity like oil and that a combination of short-term and spot cargoes, accounting for 10 to 20 percent of the market, and long-term contracts, accounting for 80 to 90 percent of the market, can create the flexibility to meet market conditions. All participants have achieved cost reductions, but a continuous effort is needed to create benefits to all the industries in the LNG market. He concluded:

> We are facing a challenging time, but I believe those challenges will make natural gas the primary energy to fuel the 21st century in Asian and LNG will continue to play a key role.

Number 520

REPRESENTATIVE DYSON asked if Japan was concerned about Chinese expansion into the Spratly Islands and the Strait of Malacca.

MR. MURAKI answered that it was a concern. He added, "Cheap transportation is very important, but not only to energy." This raises a concern about energy supplies from the Middle East, and that is why the Alaskan and Sakhalin projects, which come through open water, are more favorable.

REPRESENTATIVE OGAN said it appears from Mr. Muraki's charts that the contracted Asian supply through 2010 is about 80 Mt and the demand is between 108 and 140 Mt; rough math says it's between 28 and 55 Mt of additional demand. He asked which projects were competing with Alaska to meet that demand.

MR. MURAKI responded that he didn't want to create conflict among the suppliers, but for the northeastern Asian market, Sakhalin will compete. Australia has gas, and another competitor was the Malaysian Irian Jaya (Tangguh) project. The

existing Northwest Shelf project in Australia has a plan to expand, and there is a lot of gas in the northern territory of Australia between East Timor; Australia is the future supply to the East Asian markets.

REPRESENTATIVE OGAN asked if Tokyo Gas planned to diversify its supplies for political reasons. He said Alaska offers a stable political situation and has the supply; however, there are hurdles getting it to tidewater that make it difficult to be competitive currently.

MR. MURAKI answered that they have political reasons, but basically want to secure a long-term supply. An accident could happen in one supply project, for instance, and stop the project. The political issues have to be considered.

REPRESENTATIVE JAMES asked Mr. Muraki to explain the scope of his company and if they were just a supplier of gas or market gas to other markets.

MR. MURAKI replied that their major business is to supply gas to their markets and utilities. They have 8.7 million customers. In the future, the LNG business can grow, and they will look at that. They operate jointly with the local gas company. "We want to be an energy company, not just a gas company," he added.

REPRESENTATIVE JAMES asked what percentage of Shell's Sakhalin gas Japan would be interested in.

MR. MURAKI answered that he wasn’t sure how much gas Japan would get, and added that Sakhalin has two projects; Shell is a major player in one, and ExxonMobil is in the other. Shell is planning to create 9 Mt of LNG project, and Exxon is planning to supply gas by pipeline to Japan with a capacity of about 6 Mt. Shell is looking at Japan and Korea as major markets, but wants to send the majority of its supply to Japan. He added that the project would start in 2006; ExxonMobil is planning to start in 2008.

REPRESENTATIVE CROFT asked when a project becomes competitive. He said he has heard that a project is feasible if it costs $1 billion and produce 1 Mt per year.

MR. MURAKI answered that the cost of the projects are different. The cheapest LNG project so far is Tangguh for $1 billion, but he didn't know what costs were included. Usually the lead production terminal for two train projects of 6 Mt to 7 Mt costs

$3 to $4 billion. "That is what I know," Mr. Muraki said.

REPRESENTATIVE DAVIES asked what price Tokyo Gas paid for contracts through 2006 and what would they be into 2010. He also asked if they had negotiated with Alaskan producer, yet.

MR. MURAKI replied that the contract price changes with the oil price, which is $20 a barrel. To take LNG to Japan and Korea is about $3.80 Mbtu. A $1 change for oil, up or down, makes a change of 15 cents for gas. He explained that a lower limit was required by LNG producers to secure long-term return of investments. Probably the price will be a little bit lower in their negotiations for new supplies. Another option is "decoupling for oil." They don't have anything like a New York Mercantile market, and that would be very difficult. He stated:

> We haven't had any deep discussions with Alaska. I think the reason is that there are several organizations bringing Alaskan gas coming into the market. That is creating a little bit of confusion. At this moment, I cannot identify who is the real organization we can discuss LNG from Alaska.

REPRESENTATIVE OGAN asked how Alaskan legislators can overcome the "dysfunctional" view of Alaska that overseas markets have.

MR. MURAKI replied, "Alaska needs to create new ties to organizations to market LNG to the Asian market and contact with the potential buyers." He said the marketplace is becoming more complex. They used to have a large consortium for different buyers, but now there is more competition. He thought the projects needed to contact each buyer to discuss specific proposals.

SENATOR TAYLOR said it appears there is no sure knowledge of gas, nor a secure way to get gas to Japan. He asked if that was a fair statement.

MR. MURAKI answered that they know there is gas in Alaska. The gas reserve is not the problem. They have contact with the gas producers and suppliers, but buyers cannot seriously consider buying gas with the confusion of whom to deal with and who owns it.

SENATOR TAYLOR said, "We are also well aware, and have been for years, of the known reserves of the gas that we have. And yet we, too, find ourselves here as a body very frustrated that

there is not a direct linkage going on or a marketing effort going on. It is hard to pin down who is talking to whom about what." He thanked Mr. Muraki for being here and for his candor.

REPRESENTATIVE FATE said his pricing mechanism included long-term contracts, as well as short-term and spot contracts. He asked if Mr. Muraki saw a balanced combination of those or saw that most of them would be short-term or spot contracts, moving away from long-term contracts.

MR. MURAKI answered that long-term contracts would be the base. Short-term and spot contracts would be relatively small. Spot price is influenced by specific markets. Long-term contracts have a different pricing mechanism with different countries and different markets. "We want to have different portfolios for different markets," he added.

CHAIRMAN TORGERSON thanked Mr. Muraki and concluded the presentation.

ADJOURNMENT

There being no further business before the committees, the joint meeting of the Senate Resources Standing Committee, the House Resources Standing Committee, and the House Special Committee on Oil and Gas was adjourned at 1:20 p.m.