ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE
February 7, 2005
3:38 p.m.

MEMBERS PRESENT

Senator Ralph Seekins, Vice Chair
Senator Ben Stevens
Senator Fred Dyson
Senator Bert Stedman
Senator Kim Elton

MEMBERS ABSENT

Senator Thomas Wagoner, Chair
Senator Gretchen Guess

COMMITTEE CALENDAR

SENATE JOINT RESOLUTION NO. 5
Urging the United States Congress to reauthorize the Methane Hydrate Research and Development Act.

MOVED SJR 5 OUT OF COMMITTEE

PREVIOUS COMMITTEE ACTION

BILL: SJR 5
SHORT TITLE: REAUTHORIZE METHANE HYDRATE RESEARCH ACT
SPONSOR(s): SENATOR(s) THERRIAULT

02/02/05	(S)	READ THE FIRST TIME - REFERRALS
02/02/05	(S)	RES
02/07/05	(S)	RES AT 3:30 PM BUTROVICH 205

WITNESS REGISTER

Senator Gene Therriault
Alaska State Capitol
Juneau, AK 99801-1182
POSITION STATEMENT: Sponsor of SJR 5.

Mr. Mark Myers, Director
Division of Oil and Gas
Department of Natural Resources
400 Willoughby Ave.

Juneau, AK 99801-1724
POSITION STATEMENT: Commented on SJR 5.

ACTION NARRATIVE

CHAIR RALPH SEEKINS called the Senate Resources Standing Committee meeting to order at 3:38:26 PM. Present were Senators Dyson, Ben Stevens, Stedman, Elton and Chair Seekins.

3:38:57 PM

SJR 5-REAUTHORIZE METHANE HYDRATE RESEARCH ACT

CHAIR RALPH SEEKINS announced SJR 5 to be up for consideration.

SENATOR GENE THERRIAULT, sponsor, said he introduced SJR 5 after traveling to Congress with Representative Samuels and Mark Myers, director of the Division of Oil and Gas, to make a presentation to the Senate Energy Committee on how natural gas could solve future energy needs of the nation and how Alaska fits into that equation.

3:39:54 PM

SENATOR THERRIAULT said gas hydrates need either temperature control or tremendous pressure to keep the gas in a hydrate structure. Alaska is one of the areas in which those hydrates are known to exist in abundant supply; another place is the Gulf of Mexico. Methane or natural gas molecules are trapped in ice cages on the North Slope.

SENATOR THERRIAULT referred the committee to a United States Geological Survey (USGS) map of the North Slope indicating where gas hydrate conditions are believed to exist. Alaska is perfectly situated now to take the information gathered under the Methane Hydrate Research Development of 2000 and move that into the field. Five hundred and ninety trillion cubic feet of natural gas is estimated to be in a hydrate structure underneath the existing Prudhoe Bay reserve.

3:41:45 PM

Development of a small percentage of that, 40 - 100 TCF, could be used as reserve that would back up development of the gas pipeline. It would potentially impact tariffs paid on the line and how it is structured and sized for capacity.

3:42:17 PM

There are already a number of proposals to bring on 35 TCF of known gas reserves on North Slope. If only a small percentage of the 590 TCF that is known to be onshore was developed, that's multiples of the current 35 TCF that is being considered enough to build a line to market.

3:42:52 PM

Alaska has infrastructure in Prudhoe Bay and the oil industry has become adept at mapping hydrates because they drill down through and map them. Casings are installed quickly to prevent pressurization of the wells from the gas hydrate structures.

3:43:41 PM

SJR 5 asks that the Methane Hydrate Research Development Act be reauthorized. Its conclusion is due this year in October and it is time to take laboratory applications into the field, especially in the Prudhoe Bay area. Total gas hydrates available on the North Slope, including onshore and offshore, get into truly staggering numbers - instead of hundreds of trillions of cubic feet, you're talking about 1,000s of trillions of cubic feet.

Offshore gas hydrates are more difficult to develop, but as technology develops over time, Alaska has the resource to fill a pipeline with it both - short-term and long-term.

3:46:12 PM

MR. MYERS, Director, Division of Oil and Gas, said he would answer questions.

3:46:42 PM

SENATOR ELTON asked the department to put together information outlining how the Law of the Sea Treaty could affect all offshore methane hydrate resources. Mr. Myers acknowledged his request.

3:47:32 PM

CHAIR SEEKINS indicated a map of potential gas hydrates based on seismic data and well information.

3:48:33 PM

MR. MYERS said estimates on the map are accurate using seismic data and well information. Characteristics of the hydrates can be identified from seismic data. The estimates in the Kuparek/Milne Point area are accurate. The National Petroleum Reserve Alaska (NPRA) also has identified hydrates.

He explained that industry considered hydrates a geohazard. To get a drilling permit on the North Slope a company must present the Alaska Oil and Gas Conservation Commission (AOGCC) with a map of the potential for hydrates of free gas that must be drilled through before going to a deeper oil objective. The shallow intervals have to be cased off. They have been mapped over the North Slope extensively, but the in-place numbers around the infrastructure are very good. The question then becomes how much of if it is economically recoverable.

3:49:44 PM

MR. MYERS said Prudhoe Bay hydrates are unique in that a free-gas leg lies beneath the hydrate pressure cell. A simulation was done of lowering the pressure on the free gas leg where the hydrates come out of solution. It was found that at least 60% of the hydrates would be recoverable at the rate of 50 MMCF per day – suggesting highly commercial wells from the hydrate accumulations.

3:50:30 PM

He explained that most hydrates are biogenically created by microorganisms near the surface. High pressures at deep ocean depths, for instance, create a stability field for the hydrates to form. The temperature there is also relatively high.

Conventional fault blocks are the structure in which gas is trapped on the North Slope. Conventional gas migrates up through the faults into near permafrost where the right temperature and pressure conditions exist to form the hydrates. Conventional gas and hydrates are trapped together and a relatively simple pressure mechanism will lead to relatively high rates of production of free gas followed by a tremendous amount of hydrates as they come out of solution.

3:51:08 PM

MR. MYERS said that hydrates are about 180 times denser in terms of the volume of gas per cubic foot than conventional gas.

Engineering tests are needed to demonstrate that the reservoir simulations work.

> We're more speculative as we move out away from the infrastructure. But again, good seismic data in some of these areas – well penetration – so, we know the hydrates are there and we know the volumes are significant enough to potentially dwarf some of the known proven reserves of conventional gas.

3:51:48 PM

CHAIR SEEKINS asked if he prepared the zero fiscal note.

MR. MYERS replied yes.

3:52:11 PM

SENATOR BEN STEVENS noted a technical correction on page 2, line 1, where "form" should be changed to "from".

SENATOR DYSON moved to pass SJR 5 from committee with zero fiscal note and individual recommendations. There were no objections and SJR 5 moved from committee. There being no further business to come before the committee, Chair Seekins adjourned the meeting at 3:53:10 PM.