

ALASKA STATE LEGISLATURE
HOUSE COMMUNITY AND REGIONAL AFFAIRS STANDING COMMITTEE

April 12, 2005

8:12 a.m.

MEMBERS PRESENT

Representative Kurt Olson, Co-Chair
Representative Bill Thomas, Co-Chair
Representative Gabrielle LeDoux
Representative Mark Neuman
Representative Sharon Cissna
Representative Woodie Salmon

MEMBERS ABSENT

Representative Pete Kott

COMMITTEE CALENDAR

HOUSE BILL NO. 249

"An Act relating to enhanced 911 surcharges imposed by a municipality."

- MOVED CSHB 249(CRA) OUT OF COMMITTEE

HOUSE BILL NO. 9

"An Act establishing the Hydrogen Energy Partnership in the Department of Commerce, Community, and Economic Development; requiring the commissioner of commerce, community, and economic development to seek public and private funding for the partnership; providing for the contingent repeal of an effective date; and providing for an effective date."

- MOVED HB 9 OUT OF COMMITTEE

PREVIOUS COMMITTEE ACTION

BILL: HB 249

SHORT TITLE: ENHANCED 911 SURCHARGES

SPONSOR(S): REPRESENTATIVE(S) HAWKER

04/04/05	(H)	READ THE FIRST TIME - REFERRALS
04/04/05	(H)	CRA, L&C
04/12/05	(H)	CRA AT 8:00 AM CAPITOL 124

BILL: HB 9

SHORT TITLE: HYDROGEN ENERGY RESEARCH PROGRAM
SPONSOR(S): REPRESENTATIVE(S) CRAWFORD

01/10/05 (H) PREFILE RELEASED 12/30/04
01/10/05 (H) READ THE FIRST TIME - REFERRALS
01/10/05 (H) CRA, RES, FIN
04/12/05 (H) CRA AT 8:00 AM CAPITOL 124

WITNESS REGISTER

REPRESENTATIVE MIKE HAWKER
Alaska State Legislature
Juneau, Alaska
POSITION STATEMENT: Testified as the sponsor of HB 249.

LINDA FREED, City Manager
City of Kodiak
Kodiak, Alaska
POSITION STATEMENT: Encouraged the committee to move HB 249 forward.

DAVID GIBBS, Emergency Manager
Kenai Peninsula Borough
Kenai, Alaska
POSITION STATEMENT: During discussion of HB 249, testified that the Kenai Peninsula Borough supports an increase in the enhanced 911 surcharge.

CHUCK KOPP, Chair
Alaska Chapter of the National Emergency Number Association;
Chief, Kenai Police Department
Kenai, Alaska
POSITION STATEMENT: Testified in support of HB 249.

TIM ROGERS
Alaska Municipal League
Juneau, Alaska
POSITION STATEMENT: Testified in support of HB 249.

ROB HEUN, Deputy Chief Administration
Anchorage Police Department
Municipality of Anchorage
Anchorage, Alaska
POSITION STATEMENT: Testified in support of HB 249.

BILL DOLITTLE, Project Manager for 911 Program
Municipality of Anchorage

Anchorage, Alaska

POSITION STATEMENT: During the discussion of HB 249, discussed the dramatic impact of wireless phones, particularly on emergency services.

REPRESENTATIVE JIM HOLM
Alaska State Legislature
Juneau, Alaska

POSITION STATEMENT: As the sponsor of HB 74, urged the committee to support HB 249.

REPRESENTATIVE HARRY CRAWFORD
Alaska State Legislature
Juneau, Alaska

POSITION STATEMENT: Spoke as the sponsor of HB 9.

CARYL MCCONKIE, Development Manager
Office of Economic Development
Department of Commerce, Community, & Economic Development
Juneau, Alaska

POSITION STATEMENT: Testified that DCCED has no position on HB 9.

DAVID LOCKARD, Technical Engineer II
Alaska Industrial Development & Export Authority (AIDEA) and
Alaska Energy Authority (AEA)
Department of Commerce, Community, & Economic Development
(No address provided)

POSITION STATEMENT: During discussion of HB 9, answered questions.

SARA FISHER-GOAD
Alaska Industrial Development & Export Authority (AIDEA) and
Alaska Energy Authority (AEA)
Department of Commerce, Community, & Economic Development
(No address provided)

POSITION STATEMENT: During discussion of HB 9, answered questions.

BILL LEIGHTY, Director
The Leighty Foundation
Juneau, Alaska

POSITION STATEMENT: During discussion of HB 9, discussed hydrogen as a storage unit and transmission medium for a renewable source of energy.

ACTION NARRATIVE

CO-CHAIR BILL THOMAS called the House Community and Regional Affairs Standing Committee meeting to order at [8:12:16 AM](#). Representatives Olson, Thomas, LeDoux, Neuman, Cissna, and Salmon were present at the call to order.

HB 249-ENHANCED 911 SURCHARGES

CO-CHAIR THOMAS announced that the first order of business would be HOUSE BILL NO. 249, "An Act relating to enhanced 911 surcharges imposed by a municipality."

[8:12:45 AM](#)

REPRESENTATIVE MIKE HAWKER, Alaska State Legislature, Sponsor, explained that HB 74 was introduced early in the session by Representative Holm. However, Representative Holm ultimately decided not to continue as prime sponsor of HB 74, and therefore Representative Hawker introduced HB 249 to continue the effort. He further explained that HB 249 was introduced in cooperation with the co-chairs of the House Community and Regional Affairs Standing Committee and is in essence the committee substitute (CS) that was going to be utilized for HB 74.

[8:14:28 AM](#)

CO-CHAIR OLSON moved to adopt CSHB 249, Version 24-LS0853\G, Cook, 4/11/05, as the working document. There being no objection, Version G was before the committee.

[8:14:45 AM](#)

REPRESENTATIVE NEUMAN said that he supports enhanced 911, but expressed concern with the \$2.00 surcharge on each line that can increase beyond the \$2.00. He also expressed concern with regard to the lack of ability to determine the location of 911 calls made via cell phones. Furthermore, a large burden is placed on those organizations with multiple lines, such as schools and businesses. Representative Neuman related his concern with regard to the various lines coming in to homes that would each have a surcharge for enhanced 911 services.

REPRESENTATIVE HAWKER highlighted that this legislation is about safer communities and saving lives, which requires a certain capital investment and a sustained funding source. When one dials 911, there is the expectation that a human being will

answer to provide the critical services. He related an incident in his district in which an individual was lying on the ground bleeding from a gun shot wound. Although the individual dialed 911, the caller couldn't be identified [or located]. This legislation would provide the resources that would move Alaska forward with the technology necessary to respond to such emergencies. With regard to the \$2.00 surcharge, the legislation specifies that the surcharge "may not exceed \$2.00". Representative Hawker stressed that he would like to provide as much latitude on the level of the surcharge to those making decisions through local elected representatives. This legislation, he opined, strikes a reasonable balance between providing the necessary public services to save lives, without the risk of a runaway government and excessive taxation.

[8:20:32 AM](#)

REPRESENTATIVE LEDOUX asked if it's true that even with enhanced 911 service, the location of a cell phone call can't be pinpointed.

REPRESENTATIVE HAWKER deferred to the technology experts.

[8:21:09 AM](#)

REPRESENTATIVE NEUMAN related his understanding that there is already a 911 system in which the location of the house [from which the line is billed] can be identified.

REPRESENTATIVE HAWKER agreed, but noted that in some areas of the state such services aren't available, although it's a federal mandate.

REPRESENTATIVE NEUMAN said that most of the larger rural areas already have enhanced 911 services. He reminded everyone to call telephone companies to revise the directions to one's house. He pointed out that the legislation specifies that a borough must share the revenue with the other cities within it, but it doesn't specify a rate. He expressed concern with regard to global positioning systems (GPS) in telephones due to that providing the ability to track an individual's whereabouts.

REPRESENTATIVE HAWKER emphasized that this legislation provides the maximum respect for local control and self determination. The allocations between a borough and its communities are to be determined by the borough and those communities. He related his discomfort with dictating, at the state level, how communities

should handle a specific negotiation. With regard to the technology, Representative Hawker said that it doesn't become a bug in your pocket because the locator would only be triggered when necessary.

[8:24:18 AM](#)

REPRESENTATIVE NEUMAN recalled hearing testimony in opposition to HB 249 from AT&T representatives who felt less people would purchase less cell phones.

REPRESENTATIVE HAWKER related that he has been working for two years with phone companies to allay concerns. He noted that he has a letter dated February 24, 2005, to Senator Bunde, who is carrying the companion Senate legislation. From the aforementioned letter he read the following: "That AT&T has been following the issue of enhanced surcharges with interest and concern since last year. That the Senate substitute for their bill with the \$2.00 per line ceiling and provisions to exceed that with voter approval represents a fair compromise." Representative Hawker acknowledged that the phone companies are largely concerned with regard to being agents collecting the fee and with regard to there being an unlimited ceiling. He reiterated that he has been working with the industry to accommodate those concerns.

REPRESENTATIVE NEUMAN said that perhaps he was thinking of another carrier, but highlighted that there isn't unanimous support of this.

[8:26:17 AM](#)

CO-CHAIR OLSON recalled that the concern was related to HB 74 when the surcharge was originally set at \$5.00. He asked if anyone has complained regarding the \$.75 surcharge.

REPRESENTATIVE HAWKER replied no.

[8:26:48 AM](#)

REPRESENTATIVE LEDOUX asked if this legislation will impact areas of the state that currently don't have 911 service.

REPRESENTATIVE HAWKER specified that HB 249 doesn't allow the imposition of surcharges where no service is provided.

REPRESENTATIVE LEDOUX further asked if HB 249 would impact whether there will be services provided in those areas [which don't currently receive such services].

REPRESENTATIVE HAWKER opined that this legislation could be interpreted as a vehicle in which local telephone companies could work with local municipalities to obtain 911 service. However, there are a number of significant issues which must be overcome, such as the first responder may not be located in the community where the crisis is occurring. Representative Hawker expressed the need to continue to work on providing better access to public safety services.

[8:28:38 AM](#)

REPRESENTATIVE CISSNA expressed her belief that "the municipality" language, is critical because it is then a local choice with regard to what may be imposed. She asked whether this legislation addresses multiple lines charged to one billing address, and also asked if the surcharge would be charged to each line.

REPRESENTATIVE HAWKER referred to the language [on page 1, lines 10-11], which says "access lines that provide telephone service to wire line telephones in the area". He opined that the intent was to provide service such that the individual telephone in a large office building could be located rather than where the telephone switch is located, which may be a completely different building.

[8:31:57 AM](#)

CO-CHAIR THOMAS related an accident in Haines last year in which the 911 call was routed to Juneau. Unfortunately, it took about an hour and a half to determine [the location of the caller] and in the meantime, the individual who was only a few miles from [Haines proper] died.

REPRESENTATIVE HAWKER requested that everyone keep in mind that this legislation is first and foremost about saving lives. He characterized HB 249 as cornerstone legislation from which the legislature makes a commitment to build emergency response services and provide access to them.

[8:34:29 AM](#)

LINDA FREED, City Manager, City of Kodiak, said HB 249 is very important to municipalities. She agreed that this legislation is a good start in addressing all of the complexities of enhanced 911 and emergency response systems in the state. Ms. Freed noted that the language on page 2, lines 18-20, is a good addition to the legislation. In fact, the City of Kodiak and the Kodiak Island Borough have already created a local agreement regarding how the revenues [from the proposed surcharge] will be shared. Ms. Freed noted her agreement with Representative Hawker that HB 249 should be a local option in order for the local communities to implement the best system for their community. Ms. Freed encouraged the committee to move HB 249 forward.

[8:36:22 AM](#)

REPRESENTATIVE NEUMAN asked whether [Kodiak] would use the entire \$2.00 surcharge or less.

MS. FREED opined that it's unlikely that Kodiak would increase its surcharge from the \$.75 until there is a review as to the equipment necessary for cell phone service. The cell phone issue isn't as compelling in Kodiak as for those communities on the road system. She further opined that funds need to be available for all of the emergency dispatch response portion of the system, not just for the enhanced 911 system. If those funds could be used for greater emergency dispatch, then [Kodiak] would review increasing the fee. The surcharge could also be increased in order to support communities without 911 service.

[8:38:46 AM](#)

DAVID GIBBS, Emergency Manager, Kenai Peninsula Borough, stated that the Kenai Peninsula Borough supports an increase in the enhanced 911 surcharge. He related that the borough is at a crossroads in terms of implementing the wireless Phase I and II enhanced 911 services, which is required by the Federal Communications Commission (FCC), that include the technology that provides the location of a cell phone caller. Mr. Gibbs agreed with the earlier characterization of HB 249 as a good start, although it doesn't address all the enhanced 911 issues. He expressed concern with the mechanism by which the enhanced 911 surcharge revenue would be shared with other areas within the enhanced 911 service area. He highlighted that the Kenai Peninsula Borough is responsible for many of the basic costs, such as dedicated line charges, automatic location

identification (ALI) data base maintenance charges, hardware and software for call taking equipment as well as many of the addressing responsibilities. Mr. Gibbs said [the Kenai Peninsula Borough] would be more supportive of the language [on page 2, lines 18-20] if the basic costs could be separated, addressed first, and the remaining revenue be divided amongst the cities. He characterized the aforementioned as a local decision. In conclusion, Mr. Gibbs encouraged the committee to keep working on this legislation.

8:41:00 AM

REPRESENTATIVE NEUMAN asked if the Kenai Peninsula Borough has adequate 911 location abilities.

MR. GIBBS answered that it's the case for wire lines, but [the borough] hasn't been able to afford the technology that would enable it to implement Phase I and II enhanced 911 for wireless phones.

8:42:01 AM

CHUCK KOPP, Chair, Alaska Chapter of the National Emergency Number Association (NENA); Chief, Kenai Police Department, noted his support of HB 249 because the \$2.00 surcharge allows for program expenditure and access to technology. Most agencies providing 911 program budget estimates haven't factored in the cost of wireless 911 or amended the agreements necessary to maintain ALI databases. With regard to the revenue sharing language, it's good language in that boroughs and municipalities can work on an individual program to determine the specifics of the program.

8:44:44 AM

TIM ROGERS, Alaska Municipal League, testified in support of HB 249, which he characterized as a fair compromise. Mr. Rogers highlighted that HB 249 doesn't make local governments whole for the cost of operating an enhanced 911 system. Furthermore, the legislation doesn't expand the services for which the surcharge can be used. The surcharge may only be used to pay for equipment and operation costs of an enhanced 911 public safety answering point (PSAP), as defined in statute. He pointed out that the surcharge can't be used to pay for ambulances or other dispatch services, only enhanced 911 services as currently defined in the law. Mr. Rogers also highlighted that HB 249 does help offset the loss of revenues previously provided by the

state. As mentioned earlier, HB 249 doesn't assess a fee for those who don't receive enhanced 911 services in rural areas and may only be implemented if the local municipality provides enhanced 911 service. Mr. Rogers informed the committee that Nome is assessing an enhanced 911 surcharge of \$.75 and is utilizing that surcharge to help acquire the equipment to provide enhanced 911 services.

[8:47:29 AM](#)

ROB HEUN, Deputy Chief Administration, Anchorage Police Department, Municipality of Anchorage, testified in support of HB 249. Although he didn't believe that Anchorage would reach the \$2.00 surcharge for some time, he said that Anchorage has experienced how expensive testing and implementation of enhanced 911 services is. For example, the cost of the address database maintenance, which reconciles location with telephone numbers, has increased four-fold since the project began. He informed the committee that currently 51 percent of [Anchorage's] 250,000 911 calls per year are wireless calls. Therefore, the increased mapping capabilities for cell phone callers being developed is significant. This is a public safety issue, which will generate costs. As a manager of first responders, he said it's his responsibility to justify those costs to the local government. In conclusion, Mr. Heun opined that when there is a 911 call, the desire is to have a first responder arrive efficiently and effectively.

[8:49:28 AM](#)

REPRESENTATIVE NEUMAN inquired as to how the current 911 calls received from cell phones are located.

MR. HEUN said that currently [the technology] can't locate the location of a 911 call from a cell phone. However, there would be an attempt to call back the caller because there would be a call-back number. Mr. Heun informed the committee that the [cell phone] industry is moving toward placing locator chips in cell phones and the [dispatch center] technology has to move forward as well. He specified that the location ability will only occur when 911 is dialed.

REPRESENTATIVE NEUMAN opined that the cart seems to be placed before the horse with HB 249. He questioned how many people have cell phones with GPS capabilities.

MR. HEUN related his understanding that the industry has said the market is there for cell phones with [locator capabilities]. In fact, Alaska Communications Systems is making great strides to market cell phones with enhanced 911 capabilities.

[8:51:48 AM](#)

REPRESENTATIVE HAWKER explained, in regard to the technology that may be implemented to identify the location of cell phone users, that one device is a locator chip in individual headsets. However, alternate technology using triangulation from multiple cell phone towers is also being developed.

MR. HEUN interjected that the FCC has mandated that the industry has to market cell phones that are Phase II [compliant and thus will have the ability to locate 911 calls from cell phones].

[8:52:51 AM](#)

REPRESENTATIVE NEUMAN asked if the FCC [regulations] have any language regarding keeping the location of cell phone users private [when not calling 911].

MR. HEUN clarified that the GPS is only activated when 911 is called.

[8:53:49 AM](#)

BILL DOLITTLE, Project Manager for 911 Program, Municipality of Anchorage, opined that everyone loves cell phones, which has dramatically impacted emergency response services. Effectively, there has been an erosion in the capability of first responders to find those in need. The FCC has spent nearly a decade addressing the aforementioned and have defined Phase I and II wireless capability. He noted that there are costs on various sides of the technology. The carriers are working diligently because they are mandated by the FCC to transition to this new technology. In fact, a recent FCC ruling for waivers of smaller carriers in rural areas didn't provide much of a waiver at all but rather found a higher need for wireless location capability in rural areas. He recalled a recent conference in which a U.S. Coast Guard representative specified that nearly 50 percent of the calls it receives for assistance come from cell phones rather than VHF radio. Furthermore, there is a net increase in calls for an incident, which is an operational impact on dispatch centers that have to answer each call.

MR. DOLITTLE turned to the program costs, and explained that the absolute value of the surcharge is based on the program costs of each jurisdiction. Some of the program costs are based on areawide costs, which need to be paid for regardless of the community, as well as PSAP specific costs. For example, when Anchorage implemented the 911 upgrade and pursued the wireless initiative, the municipality's costs went from an approximately \$300,000 contract to an over \$1 million contract for services. Furthermore, the database management costs have increased, which leads to the base of the surcharge. The telephone number integrator will be paid \$.21 a record regardless of the type of record, and it's impossible to reasonably aggregate those costs. He reiterated that [the municipality] will pay \$.21 a record for every telephone number to be included in the database. He explained that the allocation of surcharges by access line is based on about 40 years of national experience with 911 programs and [the current system] has been found to be a way to equitably allocate those costs.

[8:58:00 AM](#)

REPRESENTATIVE NEUMAN asked if the aforementioned \$0.21 covers the current costs [of the Municipality of Anchorage's 911 program].

MR. DOOLITTLE replied no, and clarified that the ALI database is just a component of the cost of the program. He noted that in a white paper published last year about 20-30 different costs for the startup and maintenance of the program were identified.

[8:58:40 AM](#)

REPRESENTATIVE LEDOUX asked if the references to "wireless telephones" only means "cell phones" or does it include "SAT phones" as well.

MR. DOLITTLE answered that the costs for which the surcharge is being collected would be the costs for wire lines and wireless lines for billing addresses within that jurisdiction's boundary. He informed the committee that the FCC has a separate proceeding for SAT phones. The FCC's most recent directive is that the satellite companies had to provide a 911 call-taking center because of the difficulty in locating SAT phones on the planet.

[9:00:14 AM](#)

REPRESENTATIVE NEUMAN inquired as to the sponsor's thoughts on amending the legislation such that [the surcharge] didn't include lines that aren't phones.

REPRESENTATIVE HAWKER reiterated earlier testimony that the costs associated with implementing a [911] system are generated by the existence of the individual. Therefore, he expressed the need to consider matching the costs and expenses with the proposal. Furthermore, there is technology that combines voice and fax systems. He opined that it would be very difficult to enforce and determine which lines are actually phone lines. To accomplish the aforementioned and place it in statute, it would require disclosure, which results in an invasive government. Therefore, using the broadest base of lines would provide the ability to maintain a minimal cost per individual line. Although business and industry would bear a large cost where there are a number of lines that would be impacted by this proposal, the benefit outweighs the cost, he opined. Therefore, Representative Hawker hesitated to go forward with Representative Neuman's suggestion.

[9:03:59 AM](#)

REPRESENTATIVE NEUMAN asked if the sponsor has spoken with any businesses with multiple lines.

REPRESENTATIVE HAWKER replied yes, over the course of the last two years. He recalled that [last year] the industry was concerned with the unlimited surcharge in former legislation. However, the problem has been addressed by including language that specifically limits the application of the funds to enhance the 911 systems and implementing a \$2.00 cap, which provides assurance to the business community that this legislation could not be used by a community as a surcharge over its corporate constituents.

[9:05:27 AM](#)

CO-CHAIR THOMAS closed public testimony.

[9:05:33 AM](#)

REPRESENTATIVE CISSNA pointed out that Alaska is one of the leaders in accidental death and injury because of the remote nature of things in Alaska. She highlighted the importance of locating people and doing so in a timely fashion. She alluded that GPS in cell phones could be beneficial for emergency

situations because every moment is critical. She opined that the cell phones would still have autonomy until 911 is dialed.

[9:08:03 AM](#)

REPRESENTATIVE NEUMAN highlighted that emergency locator beacons could also be used which are cheaper than GPS mechanisms. He expressed concern with the \$2.00 surcharge on each line including faxes and Internet, especially in locations with multiple lines, because there's a potential to significantly increase monthly phone bills. He opined that large businesses, including the state, have thousands of lines so this legislation is problematic.

[9:10:27 AM](#)

CO-CHAIR THOMAS commented that commercial fishermen could have a greater chance at survival if they have cell phones [with GPS] that verify their exact location. This is a way to save lives, he said.

[9:11:34 AM](#)

REPRESENTATIVE CISSNA related that currently Anchorage charges \$0.75 and it may not charge \$2.00 for quite some time.

REPRESENTATIVE NEUMAN replied that [municipalities] wouldn't ask for the [surcharge] if they didn't want it.

[9:12:07 AM](#)

REPRESENTATIVE JIM HOLM, Alaska State Legislature, sponsor of HB 74, related this legislation does have potential for abuse. He relayed that the city of Fairbanks covers \$4.5 million a year to provide service to all the outlying boroughs. He offered that businesses with multiple lines pay extra, however, the surcharge is an insignificant expenditure in the event that it saves lives. He opined that the legislature never set policies implementing the cost of local services, and therefore statewide policy makers should not set limits [or a cap] on what a business [charges for] services rendered. He urged the committee to support HB 249.

[9:14:41 AM](#)

REPRESENTATIVE HAWKER stated that this legislation is needed for the purposes of providing responsible public safety services in Alaska.

REPRESENTATIVE NEUMAN said that he doesn't object to enhancing 911 services, but he has a problem with imposing the surcharge to fax and Internet lines. He opined that a company with 100 employees would have a phone bill of approximately [\$2,00] a month.

[9:16:05 AM](#)

CO-CHAIR OLSON moved to report CSHB 249, Version G, out of committee with individual recommendations and the accompanying fiscal notes. There being no objection, CSHB 249(CRA) was reported from the House Community and Regional Affairs Standing Committee.

HB 9-HYDROGEN ENERGY RESEARCH PROGRAM

CO-CHAIR THOMAS announced that the final order of business would be HOUSE BILL NO. 9, "An Act establishing the Hydrogen Energy Partnership in the Department of Commerce, Community, and Economic Development; requiring the commissioner of commerce, community, and economic development to seek public and private funding for the partnership; providing for the contingent repeal of an effective date; and providing for an effective date."

[9:17:27 AM](#)

REPRESENTATIVE HARRY CRAWFORD, Alaska State Legislature, sponsor, explained that HB 9 would establish a hydrogen energy partnership in order to provide a repository for federal funds and industry funds that would go toward hydrogen energy research and development. He further explained that stranded alternative energy sources, such as wind or tidal energy, can be utilized and moved where necessary [through hydrogen], which he characterized as a storage bank. Alaska is fortunate in that it has large fossil fuel resources as well as alternative energy sources. He opined that the next Prudhoe Bay will be developing Alaska's hydrogen fuel sources. This legislation provides a way in which to start the aforementioned process.

[9:19:54 AM](#)

REPRESENTATIVE NEUMAN acknowledged the benefits of hydrogen energy, but opined that it's relatively expensive to develop at

this time. He asked if the sponsor has a business plan specifying the market, the profit margin, et cetera. Representative Neuman noted his support for the development of alternative energy sources, but stated that there are many questions [to be answered].

REPRESENTATIVE CRAWFORD agreed that there are many questions, but pointed out that HB 9 provides a way to begin to answer them. He noted that a number of studies are already occurring. For instance, there has been a proposal for a demonstration project at the Island of Akutan where there are geothermal resources. If the Island of Akutan built a 10-15 megawatt unit to be powered by geothermal resources, it would have excess power for the portion of the year in which the fish processing plant isn't in operation. Representative Crawford specified that one of the [goals] is to produce hydrogen through an electrolysis process and then ship that hydrogen to small villages throughout Western Alaska in order to power fuel cells. He noted that much of this is in the concept stage, and this legislation provides a place where concepts can be taken in order to develop into an actual project.

[9:23:17 AM](#)

REPRESENTATIVE NEUMAN expressed concern with the expense of this. He suggested that another part of the process is reviewing competing energy sources. He highlighted that those in Galena are reviewing the possibility of constructing a small nuclear plant for Western Alaska. He inquired as to what other concepts are being reviewed beyond hydrogen.

REPRESENTATIVE CRAWFORD explained that these aren't competing energy sources because hydrogen dovetails with all the alternative energy sources. He explained that with wind, for example, a lot of electricity can be produced when the wind is blowing. Therefore, there needs to be a way to store the excess energy to be able to use it during times when there is no wind. Hydrogen would be a way to store the aforementioned wind energy until it's needed.

[9:25:39 AM](#)

REPRESENTATIVE NEUMAN asked then if electrical energy can be stored by attaching it to a hydrogen molecule.

REPRESENTATIVE CRAWFORD replied no. He explained that the alternative energy is used to turn water into hydrogen and then the hydrogen is stored to be burned when necessary.

REPRESENTATIVE NEUMAN pointed out that there are already batteries that store [energy] generated by wind.

REPRESENTATIVE CRAWFORD acknowledged that batteries help take some of the ups and downs out of wind power. However, the large amounts of power that could be generated [by alternative energy sources such as wind] can't be stored [in batteries]. However, unlimited amounts of energy can be stored in hydrogen if there are tanks to store the hydrogen.

[9:27:18 AM](#)

CARYL MCCONKIE, Development Manager, Office of Economic Development, Department of Commerce, Community, & Economic Development (DCCED), informed the committee that the department takes no position on HB 9 because it's a policy call for the legislature. She related her understanding that [the Office of Economic Development] would be responsible for creating a new program. Although [the department] doesn't have the staff resources to actively seek funding for this legislation, in the past the industry has come forward with support for new programs. Furthermore, [the Office of Economic Development] works closely with the Alaska Travel Industry Association, which provides private sector funding for partnership programs with the state. At the time [the department] would be able to receive statutorily designated program receipts, it would move forward with this program.

[9:28:55 AM](#)

REPRESENTATIVE NEUMAN inquired as to how hydrogen energy compares to other alternative energy sources.

MS. MCCONKIE deferred to staff from the Alaska Energy Authority.

[9:30:07 AM](#)

DAVID LOCKARD, Technical Engineer II, Alaska Industrial Development & Export Authority (AIDEA) and Alaska Energy Authority (AEA), Department of Commerce, Community, & Economic Development (DCCED), reminded the committee that hydrogen is not a source of energy but rather is a way to store energy. The

various alternative energy forms could be used to provide energy and be stored in hydrogen for use at a later date.

[9:30:55 AM](#)

REPRESENTATIVE NEUMAN restated his earlier question as to how alternative energy sources, over the course of the next 20 or so years, would compare. He inquired as to how the experts see the development and questioned whether the funds put forth for this would be better spent on other types of alternative energy.

MS. MCCONKIE said that she constantly weighs such questions when deciding program funding. With respect to the statutorily designated receipts for this, she envisioned that would come from private sector sources, or elsewhere specifically interested in this program. Therefore, she viewed the situation as being demand driven.

[9:32:24 AM](#)

SARA FISHER-GOAD, Alaska Industrial Development & Export Authority (AIDEA) and Alaska Energy Authority (AEA), Department of Commerce, Community, & Economic Development (DCCED), related her understanding that that the initial funding would come from private sources available to start the program. She thought that many of Representative Neuman's questions would be answered through the energy partnership, specifically in regard to where hydrogen would fit in the long-term planning for alternatives to diesel fuel.

[9:33:19 AM](#)

REPRESENTATIVE CISSNA highlighted that there has been a history of trying to find alternatives to existing energy sources. Therefore, she questioned how HB 9 furthers the existing efforts in regard to alternative energy sources.

MS. FISHER-GOAD related her understanding that the intent of the partnership is to develop a process and program to answer questions regarding how hydrogen would fit in with other potential alternative energy sources and any cost benefit that would result. Section 2 of the legislation requires reporting to the legislature, which would seem to afford an annual dialogue with the legislature regarding where hydrogen would fit in with other alternative energy programs.

[9:35:43 AM](#)

REPRESENTATIVE CRAWFORD specified that hydrogen needs to be viewed as a storage unit rather than an alternative energy source itself. Hydrogen isn't in competition with [alternative energy sources]. He posed a situation in which a 200 megawatt coal plant is built in the Interior. Running the coal plant at peak efficiency isn't required all the time. However, if it's run at 40-50 percent efficiency, its benefit is lost. Therefore, if the coal plant is hooked to a hydrogen system, it could run at peak efficiency all the time and produce hydrogen as a byproduct, which would save costs all around. In fact, [the consumer's] energy costs would be lowered as well. Representative Crawford specified that the idea behind this partnership is to allow private industry and electric utilities to put in money and attract matching federal funds. He noted that President Bush has allocated a couple of billion dollars for hydrogen research and development. Hawaii is now using tidal and geothermal resources to make hydrogen. Representative Crawford opined that this legislation is about Alaska's future. He further opined that hydrogen, a clean burning and renewable fuel, is the fuel of the future.

[9:39:07 AM](#)

REPRESENTATIVE CISSNA related her understanding that HB 9 is augmenting the pioneering efforts that have occurred in the Bush with alternative energy sources, and it needs to be in place in addition to those other efforts.

REPRESENTATIVE CRAWFORD agreed, reiterating that hydrogen enhances the efforts of alternative energy sources because it offers a manner in which to store and transport those alternative energy sources.

[9:40:32 AM](#)

BILL LEIGHTY, Director, The Leighty Foundation, informed the committee that he is an electrical engineer. He further informed the committee that in the last four years he has concentrated on research papers regarding the problem of bringing large-scale, stranded, renewable energy resources to distant markets. The problem of transporting the vast winds of the Great Plains was the beginning. The Leighty Foundation's first paper, which was co-funded with the Energy Foundation, compared electricity transmission to hydrogen pipeline transmission for moving the energy from a 4,000 megawatt wind plant 1,000 miles. He explained that electricity comes off the

bottom of a wind generator and a high voltage DC transmission line could be built to move the energy. However, when the wind stops blowing, the line is dead. Even in the best of circumstances, the capacity of wind generation is only about 40 percent. In other words, over a year's time, a wind generation plant would only produce about 40 percent of the amount of energy it would've produced had it operated at full output the entire year. Therefore, it results in a large stranded resource. He posed the question as to whether a hydrogen pipeline would be better.

MR. LEIGHTY echoed the sponsor's testimony regarding the importance for everyone understanding that hydrogen is only a storage and transmission medium for a renewable source of energy. He said that humanity's goal is have an energy system on earth that is based on benign energy sources, and therefore one should look forward long term for a sustainable energy source. The question is how to get [a sustainable energy source] to market. Mr. Leighty noted that the Japanese have been co-authors of many of the papers on which he has been working over the last several years. Japan is interested in building a large natural gas pipeline transmission system from the Russian far east to Japan. He noted that this pipeline system would be four times as big as the Alaska natural gas line. The Japanese are questioning whether the proposed gas pipeline should be built out of hydrogen-capable line pipe so that when natural gas is depleted, renewable source hydrogen can be transmitted via the same pipeline to Japan. Unfortunately, hydrogen is a terrible fuel with very low energy density by volume. For example, hydrogen fuel cars require hydrogen to be stored at a high psi in order to place enough hydrogen in the vehicle for a 300-mile range, which Americans seem to require in order to avoid going to the gas station more than once a week.

[9:46:05 AM](#)

MR. LEIGHTY concluded by noting his support for HB 9 and its use of the partnership concept. He then noted that the proposal embodied in HB 9 is closely related to the International Partnership for the Hydrogen Economy launched by the Bush Administration. The International Partnership of Hydrogen, a large task requiring the cooperation of many countries, has resulted in 12 nations plus the European union coming together in partnership. Although there is no funding, the [organization] offers the ability to attract such from public and private sources. This is similar to what is proposed in HB 9 and could result in research and development specific to

peculiarities in Alaska. He suggested that opportunities that may arise may relate to storage and transmission of large-scale renewable energy resources over long distances. He mentioned the need for seasonal-scale storage, which may be an opportunity for Alaska.

9:49:30 AM

REPRESENTATIVE SALMON inquired as to the amount of line loss that will occur with hydrogen.

MR. LEIGHTY said that The Leighty Foundation's paper that will be presented at the 2005 Energy Conference addresses this question regarding how far hydrogen can be transported via a pipeline before a compressor station is necessary. He informed the committee that hydrogen could be transported via a pipeline up to 1,000 miles with no compressors at the input or at the midline. Although the pressure will decrease from 1,500 psi at the source to 500 psi at the destination, it's an acceptable pressure loss. However, he noted that high pressure electrolyzers are becoming available such that electricity is put in and hydrogen comes out because the water molecule is split due to the pressure. In response to Representative Neuman's earlier question regarding competition, Mr. Leighty said that he reviewed the problem of moving large-scale wind energy over a long distance via pipelines. The Leighty Foundation's calculations specify that [the cost of the hydrogen at its destination] is \$1.50-\$2.50 per kilogram. He informed the committee that a kilogram of hydrogen has approximately the same energy content as 1 gallon of gasoline. However, an owner of a hydrogen fuel cell electric car would provide twice as many vehicle miles per kilogram of hydrogen than a gallon of gasoline because a fuel cell is more efficient.

9:52:30 AM

MR. LEIGHTY showed the committee a demonstrator to illustrate how a renewable source of energy is stored in hydrogen to produce/transform the energy into electricity. He specified that the demonstrator highlights that one must first have an energy source in which to make the hydrogen, then the hydrogen can be stored, and then returned into electricity [when necessary].

9:54:32 AM

REPRESENTATIVE NEUMAN turned to the matter of transporting hydrogen in Alaska. He highlighted that energy can only change form, and every time that it changes form it loses energy. Therefore, he inquired as to how the transport of energy is impacted by Alaska's extreme temperatures.

MR. LEIGHTY explained that transporting hydrogen through a pipeline is similar to transporting natural gas through a pipeline. Therefore, if natural gas can be transported via a pipeline at 40 below zero, so can hydrogen. The big difference and disadvantage, he noted, is that hydrogen is one-third the energy density of natural gas and thus three times as many standard cubic feet of hydrogen are used to obtain the same amount of energy at the destination point as would be achieved with natural gas.

[9:56:14 AM](#)

MR. LEIGHTY offered three cautions in regard to HB 9. First, the transmission of hydrogen will always be very costly. He informed the committee that his Japanese co-authors were bold and drew a pipeline down the Alaska Peninsula, across the Aleutian Islands to Kamchatku, down the Sakhalin to the Home Islands, with wind generators the entire length. He noted that the Bering Sea is one of the windiest places on earth. Perhaps, the future for Alaska is to have sea-born wind generators making hydrogen and placing it in the sub-sea pipeline to send to California or Japan.

[9:57:23 AM](#)

REPRESENTATIVE SALMON inquired as to how much energy could be held in a large-scale pipeline.

MR. LEIGHTY answered that a 36-inch diameter pipeline from North Dakota to Chicago is 1,000 miles. In such a pipeline, if the pipeline is packed to 1,000 psi, it stores 120,000 megawatt hours, which is 120 gigawatt hours of energy in the form of compressed hydrogen gas. Compressed hydrogen gas can be converted back to electricity or fuel. In further response to Representative Salmon, Mr. Leighty confirmed that a larger pipe, with higher pressure, provides more storage. However, he reminded the committee that in the North Dakota to Chicago scenario if the alternative energy source, wind for example, isn't available for four days and the customers in Chicago have drawn the pipeline down, there will be a need for seasonal scale, inexpensive, geologic storage. The aforementioned could

be the niche in which Alaska could offer pioneering research and development. He noted that at Stanford University the Global Climate and Energy Project is looking for game changing technology advancements. "And that's the kind of thing that they might be interested in doing here. It might be a way that HB 9 can be made to work," he remarked.

[9:59:08 AM](#)

MR. LEIGHTY cautioned the [legislature] not to look at [HB 9] as "end-running" the federal appropriation process to get something earmarked for a project in Alaska.

[10:00:00 AM](#)

REPRESENTATIVE CISSNA moved to report HB 9 out of committee with individual recommendations and the accompanying fiscal notes. There being no objection, HB 9 was reported out of the House Community and Regional Affairs Standing Committee.

ADJOURNMENT

There being no further business before the committee, the House Community and Regional Affairs Standing Committee meeting was adjourned at [10:00:23 AM](#).