

ALASKA STATE LEGISLATURE
SENATE LABOR AND COMMERCE STANDING COMMITTEE

February 2, 2010

2:03 p.m.

MEMBERS PRESENT

Senator Joe Paskvan, Chair
Senator Joe Thomas, Vice Chair
Senator Bettye Davis
Senator Kevin Meyer
Senator Con Bunde

MEMBERS ABSENT

All members present

OTHER LEGISLATORS PRESENT

Representative Dave Guttenberg

COMMITTEE CALENDAR

SENATE BILL NO. 175

"An Act establishing the Alaska Internet Access Authority and the Alaska Broadband Task Force; and providing for an effective date."

- HEARD AND HELD

PREVIOUS COMMITTEE ACTION

BILL: SB 175

SHORT TITLE: INTERNET ACCESS AUTHORITY/TASK FORCE

SPONSOR(s): SENATOR(s) PASKVAN

04/01/09	(S)	READ THE FIRST TIME - REFERRALS
04/01/09	(S)	L&C, FIN
04/09/09	(S)	L&C AT 1:00 PM BELTZ 211
04/09/09	(S)	<Bill Hearing Canceled>
02/02/10	(S)	L&C AT 2:00 PM BELTZ 105 (TSBldg)

WITNESS REGISTER

MIKE BLACK, Deputy Commissioner
Department of Commerce, Community & Economic Development (DCCED)
Juneau, AK

POSITION STATEMENT: Commented on SB 175.

TESSA RINNER, Director of Programs
Denali Commission

POSITION STATEMENT: Commented on broadband issues in Alaska on behalf of Craig Johnson, CEO.

STEVE SMITH, Chief IT Officer
University of Alaska

POSITION STATEMENT: Supported SB 175 and commented on broadband issues in Alaska.

BOB PICKETT, Chairman
Regulatory Commission of Alaska (RCA)

POSITION STATEMENT: Commented on broadband issues in Alaska. No position on SB 175.

IKE ICARD, owner
Great Pacific Cable

POSITION STATEMENT: Commented on SB 175.

BRENT LEGG, Director of Development
Connected Nation

POSITION STATEMENT: Supported SB 175.

MARTIN CARY, Vice President
GCI Broadband Team

POSITION STATEMENT: Commented on board band issues and SB 175.

JASON OLSON, Director
Regulatory Issues
AT&T Broadband Team

POSITION STATEMENT: Commented on board band issues and SB 175.

TED MONINSKI
ACS Broadband Team

POSITION STATEMENT: Commented on board band issues and on SB 175.

ACTION NARRATIVE

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CHAIR JOE PASKVAN called the Senate Labor and Commerce Standing Committee meeting to order at 2:03 p.m. All members were present at the call to order.

SB 175-INTERNET ACCESS AUTHORITY/TASK FORCE

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CHAIR PASKVAN announced that the purpose of today's meeting is to discuss SB 175 and to hear a comprehensive overview of broadband policy in Alaska. He cited US Commerce Secretary Gary Locke's public statement last month that improving "high speed Internet access is the lifeblood of today's economy. Having access to the Internet's economic health and educational benefits should be as much of a fundamental American right as attending a quality school."

CHAIR PASKVAN said he believes this fundamental right must extend to all Alaskans. He said that three-fourths of the communities in Alaska have populations of less than 1,000 people, and he believes that broadband technology can connect regions of Alaska together and can connect all of Alaska to the world. Broadband distributes education, medicine, public safety and economic opportunities; it provides the ability in the 21st Century for rural Alaska and all of Alaska to advertise its goods and services within the state and to the world.

He said people need to understand the end-to-end distribution of broadband - first-mile, middle-mile, last mile - and understand the broadband delivery modalities whether it's fiber, radio frequency, or satellite.

CHAIR PASKVAN said that while SB 175 is before them, he didn't think there was a need to advance legislation in this area, but rather to listen to the broadband opportunities from knowledgeable people and find out what is going on in this area in the state.

Overview of Broadband in the State of Alaska

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MIKE BLACK, Deputy Commissioner, Department of Commerce, Community & Economic Development (DCCED), said it was recognized by the administration and the governor that economic development opportunities are connected with the availability of reliable and high speed broadband.

He said for the past six years, the state of Alaska has been responsible for providing grants from the US Department of Agriculture (USDA) Rural Utilities Services (RUS) to companies that were expanding broadband here. Those grants compared to the American Reinvestment and Recovery Act (ARRA) monies were insignificant. With passage of the Stimulus Act that funded two

nationwide programs - the National Telecommunications and Information Administration (NTIA) and the Department of Commerce and USDA RUS program - with \$7.2 billion, Mr. Black said he became much more active in its promotion.

MR. BLACK related that when the administration became aware that these grants would be provided to the state, they formed a committee that included the Department of Administration (DOA), the Office of Management and Budget (OMB), the Regulatory Commission of Alaska (RCA), and the Department of Commerce, Community & Economic Development (DCCED) to look into broadband issues. He pointed out a number of letters in their committee packets from the Governor to the agencies expressing a lot of their opinions.

He summarized that the State of Alaska recognized and reminded the federal agencies that if any state was to be considered unserved it would be this state and that Alaska because of its geography and topography; and the extremely small communities had a customer base that in itself would not attract broadband on a commercial basis. It's because of the lack of infrastructure in rural Alaska that much of the commerce one sees in the Railbelt is unavailable there; broadband could make a huge difference for these areas that are also suffering the most from high unemployment and low incomes. They also pointed out the lack of access to health care and that telemedicine is really the only avenue that can provide effective health care in many parts of the state. Even though the State of Alaska and health care organizations in the state have pioneered telemedicine, it still remains highly unreliable because of its dependency on satellite technologies and communities sometimes are without any service because of satellite malfunction.

MR. BLACK said that conversely small businesses in remote areas can make up for their lack of access to infrastructure by using the Internet to market things like Native handcrafts, trips, ecotourism, and B&Bs. The availability of broadband would have a positive economic benefit.

Finally, he repeated the importance of broadband in education, which the federal government recognized by making a special arrangement for schools to have priority access to satellite bandwidth, but that unfortunately it is still highly limited.

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MR. BLACK related that the department began the process of working with its DC Office in understanding how this program

would be "rolled out." The state was given the opportunity to actually comment on the individual applications, but declined to do that because the department might not be the proper agency to judge the technical feasibility of such applications and they didn't want to lend the Governor's name to winners or losers.

He said that they decided to designate some awards to the Denali Commission because it can conduct broadband mapping and identify which areas of the state where broadband is available. Also the Department of Agriculture awarded \$88 million to the United Utilities of Anchorage for middle-mile broadband service for 65 communities in the Yukon Kuskokwim Delta area and the Bristol Bay regions. A \$28-million award was made for the Sea Lion Corporation that serves basically the same area. So the reality is that they have gotten some applications and have received some money under the programs, but about \$4 billion has not been awarded yet.

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SENATOR BUNDE asked why two awards were given to groups that served the same area and if they were duplicates.

MR. BLACK answered that the two groups have complimentary, not competing, proposals for middle/final mile services that basically distributes the broadband all the way into the households. However, the state doesn't have access to the complete proposals, because most of that information is proprietary.

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TESSA RINNER, Director of Programs, Denali Commission, said she was speaking on behalf of Craig Johnson, CEO, Denali Commission, on the Commission's mission, what their efforts have been in the last 10 years of the existence of the Agency and broadband and how it relates to current broadband efforts, specifically with regards to the NTIA grant award.

She said the Denali Commission was created in 1998 by an act of Congress to work on basic infrastructure including planning, design and construction across the state, training and economic development initiatives, and government coordination. She said it is important to note that historically the Commission has had relatively little involvement in the development of advanced telecommunications in Alaska, but it is specifically identified in their mission in the statute.

MS. RINNER said that in the year 2000 the Commission worked in partnership with the University of Alaska and the state to conduct a survey of Alaska communities that found that 60 percent of rural communities had unreliable dial up connection to the Internet. In 2009 the Governor designated the Denali Commission as the entity that would apply for the funds that are available through NTIA to every state to map broadband to essentially determine the amount of unserved and underserved areas, and that would in essence create a broadband map for the country that would be presented to Congress in 2011. They received \$1.8 million for this project.

MS. RINNER said the Commission is working with Connected Nation and the telecommunications providers to on the map project. Their major role, however, is the creation of a broadband steering committee that has memberships from state, federal, telecommunication providers and the Alaska State Legislature's Senator Paskvan. The initial meeting will happen shortly.

She said one of the items the commission is working on is the agreement it has with NTIA that will functionally transfer the funds to it. The committee will have three primary activities and will produce three specific work products. One will be an annual status report on broadband in Alaska, second an annual work plan that will summarize the state, private and federal efforts to development broadband in Alaska and third, produce an annual research plan that will provide recommendations on potential research needs in broadband adoption technology and other research issues.

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One other item the Commission will undertake shortly that relates to the award is working with UAA's Institute of Social and Economic that will identify what the benefits and ramifications are of having broadband in Alaska.

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STEVE SMITH, Chief IT Officer, University of Alaska, said broadband is an infrastructure for the state that is as essential as roads, health and safety. The University has a mission to deliver higher education to everyone in the state no matter where they live and this is very challenging due to the lack of infrastructure in many areas. Just this morning he discussed the challenges that the Aleutians campus have because their education centers that are located across the Aleutians are unable to get online and use core HR administrative systems and have to find other means to do that.

The University working together with the Denali Commission and the Institute of the North sponsored three audio conference public briefings about the stimulus broadband funding opportunities and held a workshop at the Anchorage campus to move this issue forward. The biggest challenge was finding a "business case" that will work for the capital expense of putting in the infrastructure and operating it with a very thin population base. Some carriers have been able to leverage some of the funds for that, but having enough capital is still very difficult.

MR. SMITH said he wanted to work with them to build out those networks but he wasn't interested in having a separate network for the University. Broadband comes into the state fairly easily, but getting it out to the western and northern regions remains a serious challenge.

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MR. SMITH said the federal stimulus program has emphasized working with "anchor institutions" like schools, hospitals, and safety and security entities that can help bring broadband into small communities where it can then be spread out to the individuals within those communities. He explained that the universities have been at the forefront of broadband development for a number of years and the UAA has been active with developing new applications for the next generation of Internet. He said the carriers have made use of some of these anchor institutions when they can, but the problem is that the subsidies Mr. Black talked about go to K-12 schools, public libraries and rural health. An unintended consequence of these subsidies is that they create "stovepipes" for broadband deployment, because they are very specific to those communities and others cannot make use of it. For instance post secondary education cannot take advantage of the education subsidy which is limited to K-12. So students may graduate from their high school in their village, but not be able to still live in that village and take courses from any post secondary institution that could be delivered electronically because they don't have access to broadband that would make that available to them. They hope the FCC will address that issue when it comes out with its national broadband plan.

He said the University welcomes the development of the Denali Commission task force and supports SB 175. A number of other states have a broadband task force or committee and they have a leg up on Alaska when it comes to competing for some of the

federal funds that are and will become available for broadband deployment.

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BOB PICKETT, Chairman, Regulatory Commission of Alaska (RCA), said most of his comments relate to his role as the chairman of the Legacy Broadband Work Group. The Legacy Groups were created by an Administrative Order (AO) in February 2009 to look at a number of separate areas in the state and hopefully come up with recommendations that will encourage economic development. This group consists of representatives from the Department of Public Safety (DPS), AT&T, Ahtna, USDA, ACS, and GCI, with staff support by the Commission.

He explained that when this group was formed a lot of things were up in the air - the stimulus bill just passed and it was obvious that it had an emphasis on broadband, but the definition was not there. The group decided to take advantage of the medical adage "first - do no harm." Most Alaskans are not aware of the nature of the telecommunications system in the state and how it is paid for; so they would look at the physical network and develop a work product that could provide some baseline information. They looked at barriers to the deployment of broadband, some potential legislative and regulatory considerations, financing issues and other mechanisms they thought would be helpful in this mission. At the end of the day, the consensus of the group was that broadband is generally available in urban Alaska - in the more populated areas - not to mean that there are no problems with spottiness in some areas. He remarked that Rural Alaska may have services that are advertised as broadband, but their nature and expense is entirely different than what is available in urban Alaska. And he said, "Let's face it, the definition of high speed Internet access has changed tremendously in a relatively short period of time."

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He explained that they were able to use only half of the \$15-million grant, because of how rapidly the technologies were changing; and because the original legislative language was so restrictive, they couldn't get the major telecom companies to come to the table and even apply. So their plan is to step back and let some of the dust settle with some of the stimulus awards, let the broadband mapping activities continue, and see where they were.

The "final mile" in rural Alaska is generally not the problem, Mr. Pickett said, but it's the middle mile from the Internet node to the community itself that has been the bottleneck. He didn't want to speak for or against SB 175, but instead said there is value in stepping back and letting the dust settle before locking things into place. As a regulator he has learned the law of unintended consequences.

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MR. PICKETT said he wanted to speak on federal systems because a great deal of the funding - over \$210 million per year - for Alaska's telecom system comes through the federal Universal Service Fund (USF). He said the Commission made annual certifications to the FCC for the funding. The initial eligible telecommunication carrier designations (ETC) that are made primarily to wireless carriers opened up the door to that subsidy.

MR. PICKETT said he thought new wireless technologies would develop to help fill in the gaps on the final mile. He said the FCC is scheduled to come up with the federal broadband plan in February, but it has been delayed by about a month. There are talks about reforming the federal universal service (FUS) mechanism to allow broadband support; that is one of those things that depending on the details it sounds good and actually could be a very positive development, but if it is a zero sum game at the expense of other uses it could have some funding impacts on existing telecommunications systems.

Finally, he noted that the RCA will take up the topic of issuing regulations on access charge reform at its meeting this Friday, and the telecom system has to be in place for that to happen. The regulations will be released for a 30-day period. It will shape the environment for the interrelationship between the local exchange carriers and the long distance carriers.

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IKE ICARD, owner, Great Pacific Cable, said he is working with the Kodiak Kenai Cable Company on a number of projects in the state. He said the Kodiak Kenai Cable Company wants to extend broadband equitably throughout the state of Alaska. He said the company was formed in 2001 and the purpose at that time was to extend fiber optic telecommunication capacity to the Kenai Peninsula and Kodiak Island, two areas that represent roughly 10 percent of the state's population that hadn't yet had the benefit of real broadband access even as currently defined. The project involved 650 miles of fiber optic cable, mostly

submarine installation extending from the fiber hub in Anchorage with landings along the Kenai Peninsula - Kenai and Homer - Kodiak Island - City of Kodiak and Alaska Aerospace Kodiak Launch Complex - and a return leg that came back from Kodiak into Seward and back to Anchorage over existing overland fiber optic cable - for a cost of \$37 million. This provided the first-ever fiber-based broadband capacity to the Peninsula and Kodiak Island. It was completed in 2006 - on time and within budget and has operated flawlessly ever since then. The cable company is organized as a carrier's carrier rather than entering the retail market with services and competing with existing carriers or the local incumbents.

MR. ICARD explained that the Kodiak Kenai Cable Company is merely a system builder, owner and provider of capacity to the other carriers; today all the major carriers carry traffic to Kenai and Kodiak over the fiber of the Kenai Cable Company. More recently over a year ago, the cable company began work on the Northern Fiber Optic Link project (NFOL). The Stimulus Act provided an opportunity to extend capitalized broadband capacity to the vast majority of western Alaska, about 40 percent of the geographic area of the state. He described that the system will be a fiber optic cable that extends out of the southern terminus of fiber on Kodiak Island out to the Aleutian Islands and Unalaska with landing points in Bristol Bay and ultimately up to Prudhoe Bay (the northern most extent of fiber trunk line capacity in Alaska today). The project is tailor-made and answers the mandates and specifications of the NTIA and RUS programs that distribute the broadband stimulus funds.

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MR. ICARD said they don't yet have word on a grant under the initial round, but they were heartened to see that the program recognizes the importance of extending broadband in Alaska through a recent grant to the Universal Utilities and the Sea Lion projects. He would have been more gratified if they had granted funds to the NFOL project. The project is moving ahead with an aggressive application under the very recently announced NFOL round 2 funding.

He said they are also working on a larger project that would extend fiber for the first time over the Arctic Circle between landing points in Asia, and Tokyo, Japan, with intermediate landings in Alaska and ultimately to London. The project would be a substantial improvement on any existing telecommunications broadband capacity extending between Asia and Europe and greatly

reduce the signal latency that is critically important for today's commerce.

He said because they have taken the position that it is critically important that broadband not be limited to one standard for rural areas and another standard for urban areas, it is important that a federal broadband strategy recognizes a broadband standard across the board that doesn't institutionalize a "sort of a divide" between rural broadband access and that available in urban areas.

He agreed with Dr. Smith that the NTIA's program focuses on anchor institutions and that is partly a focus of the second round of funding. He agreed that while it's important to get broadband to the anchor institutions it is also important that these funds be used more broadly to service entire communities in the rural areas. They also concur that the subsidy programs have been somewhat "stove piped" in an erratic distribution.

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SENATOR THOMAS asked how much a project that stretches from London to Tokyo costs.

MR. ICARD answered around \$1.2 billion.

SENATOR THOMAS asked the payoff anticipated on a project like that.

MR. ICARD replied sufficient to make it an economic project on its own. It is not a subject of their applications under the broadband Stimulus Act.

CHAIR PASKVAN asked if the latency issue makes the Asia, Europe, North America program so valuable.

MR. ICARD answered yes. He explained that latency for existing interconnections between Asia and Europe runs on the order of 140-150 milliseconds, and those are a submarine links through the Mediterranean and Suez or overland through Sakhalin Island in Russia. The Arctic route provides a very clean express lane between Europe and Asia and it would provide a gateway into Alaska through a regeneration station at Prudhoe Bay.

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BRENT LEGG, Director, [indisc.] Relations and Development, Connected Nation, said it is the parent organization of a subsidiary nonprofit they have established in Alaska called

Connect Alaska. They are primarily based in two different places in the Lower 48 and Washington, D.C. as well as in Bowling Green, Kentucky. Their mission is primarily to generate and support economic development through the expansion of broadband availability and by increasing the broadband adoption rates in areas where broadband is available. The Denali Commission has selected Connect Alaska to partner with them in order to implement the broadband mapping and data collection processes. They are the recipient through the Denali Commission of a grant which provides a total of \$1.9 million for broadband data collection, mapping activities as well as planning activities and the implementation of the steering committee that was discussed. Specifically, the broadband data collection and mapping services total about \$1.4 million out of that \$1.9 million.

MR. LEGG said the objectives of the mapping project are to form strong working relationships with all of Alaska's broadband providers and to support an environment of public and private sector collaboration on broadband issues among all stakeholders. They believe that the steering committee the Commission is forming will do just that. They are also going to create and maintain the state's first maps of broadband coverage and use them to help accurately pinpoint any gaps in broadband availability both in terms of last-mile and middle-mile connectivity. They are also going to assess the level of connectivity currently provided to Alaska's community anchor institutions, a term that the federal government uses to identify schools, libraries, hospitals, local government agencies, et cetera. They are also going to work with the steering committee to route the course of its existence. The initial broadband mapping and data collection is intended to produce an initial map and then keep it updated for at least two years with the possibility of an extension from the federal government up to five years.

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The map will be an evolving document and they will have the opportunity to refine it over time. It will be available to the public via the Connectak.org website.

He said they are currently beginning the outreach process to Alaska's broadband provider community - including DSL, cable, fixed wireless, mobile cellular wireless, fiber to the premises, as well as the state's middle-mile connectivity providers - and that will happen over the next two months or so with the ultimate goal of releasing the first broadband map for the state

sometime between the end of March and the end of April. These deadlines are set as part of the DCCED's NTIA state broadband data development grant program goals.

MR. LEGG said each provider would be asked to sign a nondisclosure agreement which will protect each of them for proprietary and confidential data. That data will be used to create a visual depiction of broadband service availability which will be applied to a GIS-based map. Once the agreement is executed with each of the providers, the mapping team will work to transfer the data to them in a useable format. Once that transfer process is complete and a visual depiction of broadband service availability has been depicted and placed onto a GIS-based map, each provider will have an opportunity to approve the map before the information is applied to the aggregated statewide map and before that map is released publicly.

MR. LEGG said once the map is complete, it will be available to the public via an interactive address searchable online application called "broadbandsat," which will be available via the Connectak.org website. Per the federal notice of funds availability that governs the state broadband data and development grant program, they are required to submit the overall collected data to NTIA at the census block level of detail according to established deadlines. That data will be submitted to NTIA sometime between the end of March and April and be continuously updated every two years, and up to five years if NTIA chooses to make those remaining funds available. Their engineering and technical services division will work to validate the data that is represented on the map and insure that it is accurate. They will also be inviting public scrutiny of the map to insure that it is accurate and the public will be able to provide feedback on their website. The inquiries will be aggregated and they will all be addressed as they come in.

MR. LEGG explained that the "broadbandsat" interactive application will allow the public and the steering committee to search for and identify broadband service at a specific location; if addresses are available, they will be able to search for connectivity at a specific address. That information will include available speeds and service provider names at a specific location. Satellite imagery will be available in cases where street addresses don't exist. Users will be able to apply a satellite view on the map and see where individual buildings and structures are located. This will also allow the steering committee to understand and track broadband deployment over time. It will allow them to analyze and prioritize unserved and

underserved areas using population and household density information. It will also allow them to track "Act" funded broadband projects and to build and evaluate scenarios to help score and prioritize future broadband infrastructure proposals, and allow them in partnership with the University of Alaska to track broadband adoption rates and barriers to adoption community by community over time.

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MR. LEGG said they are very excited to be engaged in this partnership; it is going to be a very intense project over the next couple of months, and it will be customizable to Alaska's very unique needs.

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MARTIN CARY, Vice President, GCI, said in August 2009 through its wholly-owned subsidiary, United Utilities, applied for a RUS grant to build a system throughout southwest Alaska. Their application was funded for an \$88 million project with a 50/50 grant/loan (that GCI is guaranteeing) ratio.

The project is called "Tariff Southwest," and it is the beginning of the implementation of GCI's statewide terrestrial vision, which is to move as much of rural Alaska off of the satellite and onto terrestrial facilities as possible. This project is enabling them to take those first steps. It will interconnect 65 villages in the Bristol Bay and Yukon Kuskokwim (YK) regions, Dillingham and Bethel. It is a combination of a hybrid fiber system and microwave network and will serve 22 villages in the Dillingham region and 43 villages in the YK Delta.

He explained that today GCI owns a microwave system in YK that is essentially a broadband island; it has very high speed connectivity, but it needs to connect to the rest of the world via satellite. The Terra Southwest project is now going to enable them to build a fiber system from Anchorage down to Homer, across Cook Inlet up over the mountains, down Iliamna Lake and ultimately around the corner interconnecting to the Delta network and moving all of that traffic off of the satellite and onto fiber and microwave systems. Along the way they will be interconnecting those 22 villages in the Dillingham region.

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MR. CARY said work began on the system in 2009 and the year 2010 will be spent primarily on engineering logistics, permitting and

an upgrade of the Delta net system to get it ready to interconnect with the main backbone that will head back to Anchorage. In 2011 about half of the microwave sites will be constructed and the fiber cable will be laid from Levelock to Pile Bay at the end of Lake Iliamna and then to Williamsport. Then in 2012, final construction of the microwave sites, the underwater system that will be interconnecting Homer to Williamsport, will be brought on line and at that point, terrestrial broadband service should be available to all 65 of those communities.

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GCI is committing to at least 100 megabits of capacity to each community and residents should be able to enjoy multi-megabit Internet service with very low latency as a result of being on the ground as opposed to being on the satellite. The region will have improved telemedicine services, improved distance learning services, more opportunity for the University-system organizations like AVTEC to deliver services directly to people's homes. They are hoping for economic development as a result of broadband deployment into these communities and an overall better quality of life. He said the system would be serving about 35,000 residents.

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JASON OLSON, Director, Regulatory Issues, AT&T Alaska, said they are committed to expanding broadband across the US; they believe that Internet has "the ability to transform our society, our economy and our way of life." He said that AT&T has invested over \$140 million in the state of Alaska between 2006 and 2008, and in 2009 they spent tens of millions to add in excess of 20 new cell sites throughout Alaska with more sites being planned in 2010. He said AT&T continues to roll out its third generation (3G) mobile broadband network and has significant 3G coverage already in Anchorage, Fairbanks and Juneau.

It has been AT&T's experience that consumers not only want broadband, but demand that it be mobile. Following these industry trends, AT&T has supported the deployment of mobile broadband in Alaska. Rural Alaska is probably the most challenging place in the US to achieve this development. He said that AT&T looks forward to working with all the industry participants to address Alaska's broadband needs.

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TED MONINSKI, ACS Broadband Team, said that ACS is an integrated and diversified communications company that operates throughout

Alaska. Their wireless communications history began many years ago, but around 2004 is when ACS deployed its CDMA wireless platform and began deploying its 3G broadband wireless service. At that time, Alaska, Fairbanks, and Juneau joined Washington D.C. and San Diego, California, in being the first markets that were EVDO [Evolution Data Optimized] broadband capable in the country.

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In subsequent years, ACS has expanded its EVDO to other locations in Alaska including Kenai, Soldotna, Homer, Sitka, North Pole, Dead Horse and Kuparek. More recently they have invested hundreds of millions of dollars to both acquire and to build undersea cable systems for high speed connectivity throughout the state. Their instate network has also been expanded and upgraded to provide fiber optic connectivity between Anchorage and Fairbanks and between Anchorage and Homer to facilitate the Internet hand off handoffs to the undersea fiber systems that take the Internet traffic to the Lower 48 Internet peering locations.

He said that most providers would agree that the cost effective way to advance broadband Internet access is through wireless technology. As a result ACS is exploring 4G technology which should be available in the next several years. It has great potential to deliver several times the current level of bandwidth.

Where feasible, he said, ACS deploys its infrastructure to enhance both within and between communities, but rural areas remain a challenge. He said that 4G "backhaul" would be as equally constrained to the extent that the only opportunity to get from the customer to the Internet peering location is via a satellite connection. The challenges are driven mainly by economics and the typical lack of "business cases" that would support the cost of investment to build the networks. It is not just construction costs, but the operations costs, as well. A combination of these costs is typically going to exceed forecasted revenues. On top of that, a lack of adequate and affordable backhaul between very rural communities and the Anchorage, Fairbanks, and Juneau hubs poses the greatest challenge.

MR. MONINSKI noted that many tasks and goals in SB 175 overlap the current activities that have been undertaken by the FCC, the NTIA, the RUS, the Denali Commission and the University of Alaska. To some extent the role and mission of the two new

entities that are proposed by the legislation also have overlaps. He encouraged them to analyze them carefully to avoid duplications where possible.

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He said a reference to the "Internet cost equalization program," in Section 2 was unclear and needed to be clarified. Also, pursuing a "dial-up connectivity objective" is a dated technology and does not produce a broadband connection to the Internet. But, he said, while dial up is unlikely to get a lot of attention or a lot of resources going forward, the broadband goals in the legislation are commendable. But to say that they can be achieved within the next five years simply doesn't speak to those underlying economic impediments that he referred to earlier.

MR. MONINSKI said if the costs of deployments are funded by grants and ongoing operating expenses are supported by federal or state universal service programs, the private sector providers will likely be incented to deploy and operate broadband that works to most rural locations. The converse is true, though, that if that funding is not available those incentives simply won't exist. Current revenue forecasts that support infrastructure investment are sustainable only with grant and loan funding and universal service support. He explained that the current federal universal service system is supported by a series of surcharges that are paid by business customers and consumers; it is currently 14 percent and growing. Also a considerable amount of pushback from communities and policy makers throughout the country exists that would suggest people believe that the fund is growing too large; so it is unclear if current support mechanisms can continue to grow.

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MR. MONINSKI stated that absent such multi-level support on the deployment and the operations, the state could at some point face the alternative that it might have to support some of these networks, particularly the middle mile that aggregates the rural traffic and gets it to the urban hubs and then down to the Lower 48.

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CHAIR PASKVAN thanked everyone for their comments and finding no further business to come before the committee, he adjourned the meeting at 3:29.