

AIR, SPACE, AND CYBERSPACE POWER IN THE 21ST CENTURY
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DAY TWO

**AEROSPACE POWER IN THE 21ST CENTURY:
A CAPITOL HILL PERSPECTIVE
LUNCHEON ADDRESS**

The Honorable Mark Begich

MODERATOR: Ladies and gentlemen, may I have your attention please. Senator Begich may be called back for a vote in the Senate. And hopefully that will not take place, while he is here, that call to go back. But it behooves us, I believe, to take maximum advantage of the opportunity we have here and, therefore, I'm going to proceed now with the introduction. And Senator Begich will proceed with his presentation.

Mark Begich is a US Senator from Alaska. He was elected in 2008. He is a member of the Senate Armed Services Committee where he serves on the Air, Land, Personnel and the Strategic Forces subcommittees. His focus there is exactly what we are looking for in this conference. As I said, he was elected to the Senate in November 2008. And in addition to his Armed Services Committee assignments, he is a member of the Committee on Science, Commerce, and Transportation and the Committee on Veterans' Affairs.

And I might add that previously, Senator Begich was the Mayor of Anchorage and the youngest person ever elected to the Anchorage Assembly, where he served for 10 years. Now he still appears to me—I haven't met him before, to be as young today as he was then. So you will see in just a few moments here. So it is a great pleasure for

me to welcome Senator Mark Begich to speak to us and to give us a Congressional perspective on Aerospace Power in the 21st Century.

So, welcome, Senator Begich.

[Applause]

SENATOR MARK BEGICH: Thank you very much and I would say age is a state of the mind and if you are in Alaska, it is good air, good water, no stress. [Laughter] So now that I am in the US Senate, check with me in a year and we will see what I look like. Actually, that is a philosophy I live by. Every day there is a new opportunity, no matter how bad it gets. And I will tell you one thing, when I came into the US Senate a year ago and came in, in January, when I was campaigning, which was the summer before—and it was kind of like, you know, you talk about all kinds of issues and the things are going well.

And then as I moved in the fall and then there was truly a free fall in our economy and everything just started to collapse—come January when I got sworn in, I looked around and I thought to myself, why did I do this. The economy is the worst since the Great Depression. I went through this long list of things. And then my staff told me, “Well, remember your attitude.” I said, “What do you mean?” “Your attitude. Every day is a good day. It is just another opportunity.” And I said, “You’re right.”

So it’s an honor, truly, to be serving in the US Senate from the State of Alaska, which of course in a setting like this makes me biased so I will probably talk a little bit about Alaska and its importance. And for all those Air Force folks that are here and the two Army folks—I love that. To the Army representatives I said, “How did you get invited?” [Laughter] I’m just kidding. I’m just kidding.

SENATOR BEGICH: There is the Army for you. Always ready to just get right in there. I can say this because my father-in-law is a retired colonel. But I appreciate you all being here. For me, it's a pleasure to be here for the 38th Annual Conference. I'm certainly impressed with the broad diversity of the participants, which is a little bit different than most audiences I get to speak to, to be very frank with you.

But also, when I come into groups like this, I have to tell you I'm a little odd in another sense, that I know whatever I say, you know more about it than I do. So I will do my best to give you what I view from the Hill, from Washington. And do keep in mind I've only been there a year. But I do have to say it feels like a dozen years. The truck tracks cover my back many times already.

Last week I was home in Alaska and I had an opportunity to speak to several diverse groups, including one in Fairbanks, Alaska. This group was a training group preparing to work on Alaska's natural gas pipeline. And it was a warm, balmy 31 below. And if you can believe it, they were anxious. I don't know if it was because I was a politician or what, they wanted me to finish. They wanted to get back outside and go to work. I thought I was doing them a favor by having a two hour-presentation. I will not subject you to that today.

The topic I've been given here today is, "Aerospace Power in the 21st Century." Some might say my expertise in this field is very limited, largely due to the fact that I have a seven year old son and the best I can do is make paper airplanes. He can do a lot better job than I can. I have to tell you, as a senator serving on the Armed Services Committee, it is fair to say that I'm truly becoming a Jack of many trades and master of none, which is a pre-qualification for anyone serving in the United States Senate.

But I also know that serving on our Armed Forces Committee is critical. And today, I would like to take several opportunities, several aspects of aerospace that I want to talk about, aerospace power, including education, impacts on homeland, training modernization, legacy platforms, industrial base and risk. And, of course, a little politics.

As I mentioned, I can't forego a moment, an opportunity to speak on what Alaska's perspective is and connect it to the nation and international perspective. I know my friend Nordie Schwartz couldn't stay here. He had to leave and get back to the Pentagon and he clearly understands what Alaska is about, and the important role that we play and that our international orientation tends to focus mostly westward, to the orient, to Asia.

And the fact is, I know—I cannot take an opportunity not to say this once in a while, but yes, as we were talking, we were talking about not only Asia but, in some places in Alaska, you can see Russia from Alaska. [Laughter] Not from my front porch, I will tell you that.

As mayor of Anchorage, I like to boast that Alaska's largest city is within just nine hours of 90% of the industrialized world, which especially has easy access to Japan, Korea, China, and Russia. Commercially, Alaska's proximity to Asian markets is a perfect location for many long distance carriers. That's why we are the international hubs for FedEx and UPS. We moved over 20 billion tons of cargo landed last year. We are the fifth-largest cargo hub in the world.

A lot of people don't recognize that. They don't realize it. If you send something from anywhere west of the Mississippi to any foreign country, it's coming through Anchorage, Alaska. That's one reason--I'm also a member, as you mentioned, of the Senate Commerce, Science, and Technology Committee. We have oversight over commercial and civilian air space issues as well as cyberspace. Attacks on the nation's information infrastructure increase daily.

Many point to the nation's vulnerability as one of the top security concerns. Commerce Chairman Rockefeller, along with ranking member Snowe, is working to help secure our cybersecurity network. Doing so while carefully balancing the needs to maintain an open and free information network is critical.

Just recently, I joined a bipartisan Senate Aerospace Caucus formed by Senators Murray and Dodd. It's focusing on education, workforce development, industrial based competitiveness and acquisition oversight. They are all important and critical issues to aerospace. I'm hoping through this forum to promote science, technology, engineering and mathematics education to help build a strong aerospace workforce for the future.

If anything could compromise aerospace power in the 21st century, it's workforce. Studies show that our children are losing interest in these subjects, in the aerospace industry generally. Government, industry, and the academic community must work together to enhance educational opportunities and raise interest in aerospace to insure the viability and the future workforce.

As a senator, I continue to work to support the programs that provide aerospace education opportunities to our youth. Like the DOD's STARBASE Atlantis program, which is unbelievably recommended—every time I hear about it, it is exciting to know what they are doing. Alaska is already off to a good start. The University of Alaska Fairbanks (UAF) tracks numerous satellites, as does the National Oceanic and Atmospheric Administration, NOAA.

UAF has the only university-owned rocket range in the nation, funded in part by NASA and military contracts. And through its capacity as a Space Grant College, UAF conducts aerospace research and course work. Additional education opportunities are available to young Alaskans through our Challenger Learning Center and Space Science Education Center. Alaska is also home to tracking stations and launch facilities, which many of you who are in the industry know.

The state-owned Kodiak Launch Complex, which we just talked about here with some folks, was one of five designated space-launch facilities allowed in the US under the previous START Treaty. The KLC is the first spaceport licensed by the Federal Aviation Administration, with unrestricted launch opportunities and unobstructed down-range

flight corridors. The Kodiak Complex can efficiently and effectively meet the many different launch requirements of federal customers, including the Missile Defense Agency and the Air Force.

Aerospace power is also vital to the safety and well-being of residents of Alaska. Given Alaska's enormous size and weather challenges, a healthy aerospace presence can literally mean life or death. Alaska has about 170 communities not on the road system. This means they are not connected by any type of road transportation. So reaching them depends on small aircraft. That is one reason why Alaska has six times more pilots and 16 times more planes per capita than any place in this country. It's truly a second car.

Rural Alaskans, who live in these remote villages, have particular appreciation for the fixed-wing tactical medium lift platforms, like the Sherpa and the C-130, and the rotor wing aircraft that go "the last tactical mile." These aircraft deliver supplies, airlift injured Alaskans to hospitals, and conduct search and rescues when necessary.

The aviation assets used for these homeland purposes are as important as they are for overseas operations. So, as the Air Force and the Army agree to transfer the joint cargo aircraft and direct air support to the Air Force, I encourage them to remember the significance of tactical platforms for homeland purposes when making these important decisions. It is one reason why in an authorizing bill last year, myself along with a few other senators, added in a piece outlining that this move must include the Guard in their decision-making of where these are placed.

Alaska is not only strategically located for aerospace education and commercial opportunities but perfectly situated for the defense of this nation. Alaska's strategic military importance has long been recognized. Shortly after Alaska's purchase from Russia in 1867, the Army helped administer the new, American territory. Within ten years, a significant presence was established in Alaska by both the Navy and what at that time was called the Revenue Service, which later became the Coast Guard.

A lot of people don't realize that. When I say that, they say, "Oh, you mean the IRS." I say, "No. No. It was a little different back then. It was the Coast Guard." And that is probably why they changed their name. [Laughter] They were smart about it.

During the turn of the century and the Gold Rush era, it was the Army that helped provide law and order in Alaska territory. In 1935, the Air Force General Billy Mitchell testified before Congress and famously pronounced, quote, "Alaska is the most strategic place in the world." Sure enough, with the buildup of World War II, Alaska's vital role in the nation's defense grew dramatically. The Alaska Highway was constructed to bring military equipment to the northern front lines of Alaska.

Our nation's eyes and ears during the era were soldiers in the Territorial Guard, Eskimos. Eskimo men capable of living off the land, who knew every nook and cranny of Alaska's coastline. Today some two dozen of these scouts still are living, most in their eighties. They are still living large off the land through subsistence hunting and fishing.

Some 30,000 active duty service men and women in every branch call Alaska home. We have Elmendorf, Eielson and Clear Air Force Bases along with Army Forts Richardson, Wainwright, and Greely. I will also say, it's also one of the places that the military retires. Eleven percent of our population is retired military. The single, largest amount per capita in the nation. These bases, as I mentioned, support the latest and the greatest in the military arsenal. F-22's, the Air Force's latest fighter aircraft, the C-17s providing for our strategic airlift capability.

And I have to tell you, when I was mayor I went to an activity and they took me on a C-17. And I'm kind of used to those nice, kind of glide landings. And they said, "Oh, the C-17 does it a little bit different." And I said, "Oh. Okay." And I have to tell you, I have to warn you, I hate going to carnivals and taking the rides. So let's put that into perspective considering what they are about to show me with the C-17. I've never been on a plane

that landed so quick on the shortest runway ever. It did so with an incredible capability. So it was impressive to see this piece of equipment.

And also, the Ground-Based Midcourse Defense system (GMD)—protecting us from long-range ballistic missiles. As you all know too well, these are hot topics these days in Congress, the administration, in the press, and of course, in Alaska. Because of this huge, military presence in my state, I asked for an assignment on the Senate Armed Services Committee (SASC) when I came to the Senate last year. This is the first time that an Alaskan has served on the Armed Services Committee since 1968.

During my tenure on SASC, I've advocated for strong military aerospace power. I voted in favor of additional procurement for F-22s, C-17s, and additional investment in the GMDs. With respect to GMDs, missile defense agency director General Pat O'Reilly stated last week in Alaska, to one of our business organizations, quote, "Alaska is the nation's first line of defense." That is also why Alaska's NORAD region, headquartered at Elmendorf Air Force Base, is vital to the defense of American and Canadian air space 24 hours a day. Most people will be surprised by the daily detection and infringements of our aerospace control intended to test our ability and defend our nation.

The Arctic area is becoming increasingly important to American strategic interests. And Alaska is the only reason America is an Arctic nation. Arctic sea ice is melting so fast that most of it could be gone in 30 years. In many respects, it is melting faster than scientists and policy makers can respond. Right now, through the US military, responsibilities in the area are shared in three separate commands, North American, European, and Pacific commands.

While I defer to the brass and the audience here today about the specifics of the military command structure, we need assurance that we have a clear, coordinated and unified response to the threats to our national security posed by the diminishing ice in the Arctic. As Congress resumes, I will continue promoting strong Arctic policies, examining

the nation's posture in the Arctic, and I expect the quadrennial defense review to explore the area of operations.

The Arctic is aerospace's new frontier. This conference has devoted an entire panel to the Arctic. Our interests in the Arctic and in Alaska is not just its strategic location, as Alaska also serves as a critical place to train our nation's defenders. General Dana Atkins, Commander of Alaska Command says there is no other place in the world where one can train in five domains ...air, land, sea, space, and cyberspace... completely unencumbered.

It is especially important in an increasingly joint military environment. Alaska is unique in that you won't find the encroachment issues that plague many in the lower 48. The FAA and the DOD must work on a policy to integrate unmanned aircraft systems into the national aerospace and should be doing so as required by the authorization act last year.

And, of course, I'm biased. I have a simple solution. Bring all the unmanned aircraft to Alaska. It is very simple. We have as much air space as all of the United States combined, but unencumbered. Both high altitude and low altitude platforms can be flown there without having conflicts in the air space to the degree you do in the lower 48. Alaska's size can accommodate all commercial, private and military aerospace platforms and systems.

As we examine access to national air space, we must also look at the impacts of all types of encroachments on military operations, aerospace in particular. In both UAS fighter jets, the ability to train like we fight in the different theaters around the world is critical to maintaining the military aerospace superiority. With faster and louder aviation platforms and increasingly sophisticated systems, encroachment is an issue the Department of Defense and the services need to seriously consider when stationing new platforms.

If I can just digress for a second, I can tell you, when I campaigned for Mayor of Anchorage, you couldn't talk about zoning because no one really cared until you got elected. Then everyone cared about zoning for some reason. They wanted you to talk about education. They wanted to talk about the budget. The minute you got elected, it was zoning. That is all—who is next door? What junk is being piled up? What building is going to be built?

In Alaska, because of our relationship, when I'm in downtown Anchorage in City Hall, I can walk out of the building like this, walk four blocks and I'm in the Air Force base, with jets flying right over, with no hesitation by the community to support such an activity. But it's because we've grown up around it and that made the difference. So as the military thinks about stationing new platforms, it is critical that they figure out how to do that in a way that is unencumbered with the local communities, because that is who politicians hear from. They will hear time and time again if there are problems.

So that balance is a careful balance for our national security. We are dealing with this right now with the Navy, who wants to do SONAR testing off the west coast of Alaska, which I think is a great idea. But there are communities who are concerned. So we are trying to work through that to make sure, as this country and this world continues to grow, we're not impacting areas that used to be unencumbered. And that is creating some challenges for us. I will tell you that it is important as the military moves forward that it works with the community. But it is becoming more and more tough as time approaches.

The platforms in Alaska today demonstrate a unique mix of tactical and strategic aerospace power that the military currently possesses. They also reflect the modernization and replacement efforts necessary to address the legacy fleet of ever-aging air platforms and the Air Force inventory. Some of the platforms the Air Force is flying today were intended to be retired long ago. The last KC-135 was delivered to the Air Force in the 1960s. Forty-seven percent of the United States aircraft inventory predates the Cuban missile crisis, and I will add to that my birth.

That is a fact cited in the National Defense Authorization Act for Fiscal Year 2010. I'm concerned about the aging legacy platforms and recognize the need to modernize or replace them for the 21st century to maintain our power. The specific investments in platforms and systems necessary to maintain aerospace power and dominance is obviously an issue that requires a lot more discussion.

Last year, I experienced many debates on programs including the F-22, the joint cargo aircraft, the GMD, the next generation bomber and continued dialogue around the KCX refueling tanker. All these issues, of course non-controversial as you all know. With respect to the F-22, I voted for additional procurement, despite the administration proposal to terminate the production of the F-22s to 187 aircraft.

As I stated earlier, there are daily infringements on our air space. Yet the ability to maintain our dominance and superiority is vital to our national security. The Department of Defense official position was that air-to-air dominance capabilities would not be compromised by procuring only 187 F-22s instead of the more than 300 required just a year ago. We all know the outcome of that was truly a contentious issue, but I can tell you that I'm concerned at the risk we have assumed by ending production of the F-22 is increasing.

Legacy platforms in the Air Force fighter inventory continue to age. The impacts on the Air Force budget's maintaining legacy platforms is significant, and I understand the need to free up resources for other missions. However, the impacts of the retirement of more than 200 legacy fighters is unknown. With only 187 F-22s in inventory and the potential delays in delivering the F-35s, I cannot support providing direct authority for retirement of fighters. Many of my colleagues felt the same way, which is why we require a report from the Air Force on force structure impacts in overall inventory.

The fifth generation fighter, the F-35, is a platform I wholly support and I hope to see stationed, of course, at Eielson Air Force Base during the next stationing round. It is air

to ground capabilities are vital. But I am concerned that a lot of stock has been put in delivery of this aircraft. The decisions mentioned earlier are now impacted by the F-35 schedule that may slip and the costs that continue to increase.

In short, we need to be aware of the risk of our fighter aircraft capabilities. While the department may deem the risk acceptable, I do not want to get to the point where today's decisions leave the Air Force or our Air Guard with a fighter shortfall that compromises our national defense.

With respect to strategic airlift capabilities—the Air Force is doing a tremendous job supporting the missions around the globe, including relief and recovery efforts in Haiti with the C-17. And I know, I think two Alaskan C-17s are down there. A robust strategic airlift capability is a must in today's global environment. Congress has recognized this and raised the requirement for a number of platforms in strategic airlift inventory and appropriated money for additional C-17s.

In terms of tactical airlift capabilities, I suspect the discussion on the direct air support mission will continue next year. I will continue to advocate for an increased buy of joint cargo aircraft to address any shortfalls. I also will be paying close attention to the location of these aircraft. As the Department of Defense tries to balance sustaining current inventories while delivering the next generation of aerospace platforms, Congress must move forward with confirmation of its appointees.

For the Air Force, the confirmation of Erin Conaton as the Undersecretary of Air Force is crucial. It's a position that has been vacant too long and will be instrumental in the formulation of space and aerospace policies. As we all know, aerospace is not just an Air Force responsibility that speaks to the ground-based, mid-course system, for which I'm a strong advocate. The GMD is a system that underwent many changes last year between the budget submission and the new phase approach to missile defense.

During that process, I raised concerns about the impact of budget decreases to our defense posture and national security risk. I also became increasingly aware of the devastating impact on the industrial base. Reduction of the 14 planned GMD missiles presented a serious risk to our ability and our future ability to produce interceptors and other capabilities. So Congress appropriated an additional \$50 million for sustainment of the GMD industrial base to include the solid rocket motor propulsion base.

Solid rocket propulsion is the enabling component in our nation's ability to launch on demand, providing the backbone for major elements of our national security. It provides our strategic deterrent, missile defense, tactical offense, space-launch systems. Solid rocket propulsion enables these weapon systems to literally get off the ground. The production and integration of these motors is extremely hazardous and technically challenging work. It requires complex and unique industrial capabilities and an enormous amount of highly trained personnel.

In addition to funds appropriated for sustainment of GMD, Congress mandated a report from the Undersecretary for Acquisition, Technologies and Logistics. This report will address sustaining the solid rocket motor industrial base so we will not lose the skilled workforce and ability to sustain current capabilities. This is also integral to our strategic posture.

Losing industrial base capabilities and skilled workforce presents a great risk to current and future aerospace capabilities. And we certainly cannot expect cost effective acquisition programs if we take a stop and start approach to production and decrease the potential for competition. Sustaining the industrial base requires a comprehensive interagency approach to determine what capabilities are vital to the current and future programs across the whole government. This year's aerospace discussion and debates will be driven by the nuclear posture review, the ballistic missile defense review, and the quadrennial defense review.

One thing I've learned here, we've got a lot of reports we produce. And what is unique about this coming year, these three major ones all come at the same time, roughly, which is critical for us as we move through the armed services capacity to see exactly how everything connects. So it is important as we have these reports, and I'm one of those that believes it's great to have reports but it is more important to take action, but these reports will be a basis to make long-term decisions in all our capacity within our military.

As I said, these will show capability requirements and investments in the platforms. But there is no doubt as new capabilities are required for new frontiers like the Arctic, and our definition of warfare changes with new domains like cyberspace, we have to make investments in industrial base and workforce in the interest of the 21st century. We must be realistic in the cost and schedule of our acquisition programs.

National security, and particularly aerospace in the 21st century, will require us to work together regardless of the politics. The environment now and in the future will present a full spectrum of threats. This requires a complex set of solutions at both tactical and strategic levels. As I continue to work as a senator, I look forward to ensuring that our national defense is strong, especially when it comes to aerospace issues.

I want to thank all the military in this audience for participating in this conference, for the work that you are doing, for the efforts you do to help educate people like myself who are new members. Because I know, one of the things I learned very quickly, when you are on the Armed Services Committee, you will have every meeting with as many people as possible within the military infrastructure. Because, as you spend time, you hear about every element. And therefore gives me, at least my personal view, a better understanding of what we need to do in the global picture of how we deal with our national defense.

So, thank you all for one, allowing me an opportunity to speak, go through what I think are some of the critical issues and controversial at times. But as we move to this next

It intersects many times and here is an example of intersection. He has talked about this issue from that perspective. Interesting to note, not much in the Armed Services Committee, which in reality these two connect. They intersect at some point.

So I think what is going to happen is, as we move into this new fiscal year, as we start talking about the budget, this is where this discussion will occur; probably from Commerce members who are also members on Armed Services, which Bill is. So I think there is an opportunity to have this discussion. But it hasn't really percolated. It is out there. Bill has brought it up but it hasn't been the top issue, to be very frank with you.

But your point is well taken and that's my point on industrial base. We have to watch this picture very carefully. Because as we refine the budget, and my bet is, and I'm just betting this—in two weeks when the President presents his budget, it's not going to be an overall robust budget. We have several financial problems in this country, a debt that is growing at a rate that is significant. So it will be a tight budget.

But while we are doing budgeting, we have to also keep in mind that you cannot just have huge infrastructures that the industrial base just stops. Because to restart them, if you can, you got to get a workforce. And the workforce is part of the problem. When people know that industry is winding down, they go do other things. They degree out in other areas. So we have to be very careful that we are constantly recognizing that. And we have to look at some of this work, not just from a military perspective but from a NASA perspective and other perspectives, so we keep that industrial base going—so we don't lose some of this incredible technology and try to restart it later.

So your point is well taken, and I can tell you Senator Nelson has echoed this in the Commerce Committee.

DON HOFFMAN: Senator, Don Hoffman, Air Force Material Command. First of all, let me say thank you to the Senate for more timely processing of promotion lists and confirmation lists. With one exception that you mentioned, the difference that I've seen

in the last couple of years has been tremendous. And I hope that we keep that up. And I think almost all of us in the room here have been on the receiving end of that. And some of us have had the opportunity to come over and chat with the committee now and then.

SENATOR BEGICH: I'm sorry about that. [Laughter]

DON HOFFMAN: My question is about energy, which we didn't talk about much in this conference. But it's key. We can have stuff. We can have people. But if we don't have energy, we don't have a strategic global engagement capability. So your comments on the responsible extraction, transportation and consumption of traditional forms of energy.

SENATOR BEGICH: Absolutely. And first I will say on the appointments, as a former mayor, I come from an executive branch that is a very strong form of government. So, when I started getting these lists. And they say, "We got to confirm 2,300"—And I say, "Why are we doing that? Has anyone ever stopped these? I want that Lieutenant Colonel that is being promoted. I want to bring him in. I'm curious." It doesn't happen.

But we do it and we've done it a lot this year, which is very exciting because I've had some of my friends who have been on those lists say, "Thank you. Finally." But that is the one thing that has kind of perplexed me a little bit, to be very frank with you, in the process of the Armed Services Committee. I understand certain positions within department leadership. We should just depend on the military brass that thinks it's the right person they need to promote. Then, so be it. And that should be the way it should be. But I'm probably in the minority. At least with the new members I might be in the majority.

Now, energy is an interesting piece. Obviously, from Alaska, I come from an energy state. The Air Force, for example, and the military in general are innovators in alternative fuels and utilization within their equipment. As a matter of fact, Senator Thune (R – SD) and I have teamed up multiple times on doing things or attempting to

do things within the military operations encouraging more alternative and renewable resources, because you guys have the capacity and you have a lot of innovation that is going on.

Now, saying that, our dependence on 60% of our oil from foreign countries, in some cases not very stable countries, is a huge security risk. Along with that, it is an economic risk, pure and simple. Nigeria, for example, we are importing oil from. These are not the most stable countries. But we are providing and moving oil from them.

I think this year the Congressional agenda, at least in my view, is going to be shorter. It will be focused. First, we've got a big issue with the debt, the national deficit we are going to be working on. Second are jobs and keeping this economy moving forward and the fragile economy that we are still in. But good news, today's jobs numbers were good again. So, it's fragile but we've got to keep it moving forward.

The third issue is energy. Because it is an economic issue and it's a national security issue. And I believe there is a way to craft a comprehensive energy policy for this country that recognizes our domestic oil and gas production as well as other production in the sense of non-renewals like coal and so forth—but the new energies that are out there. The future of our economy in this country is the new energy economy, which includes improving domestic production of our own natural resources here in a responsible way.

There is no other place that does it like Alaska. We work in the toughest environments in the sense of the Arctic. We understand how to do it in the water as well as on land, in the situations that are high risks, some people would say. We've been doing it for decades, very successfully. We're in the process of opening two, large oil and gas fields up in Alaska off the outer continental shelf. They are called Chukchi and Beaufort.

They are huge and we know they are big because you don't have an oil company drill a well offshore, and one is all they drilled, they bid over \$2 billion dollars for the leases.

That tells you something. My bet is, USGS totally underestimated what's there. Thank God we got royalties on whatever they pull out of there. But the fact is, you got to be realistic, it's a partnership. It's our resource and we need to balance it correctly.

But Shell, Conoco Phillips, BP, these large companies have perfected some of their technology. That is why when you go around the country now and you see Shell gas being produced in states that never had gas, it is because of the technology developed on the North Slope. It's technology that we can actually take one point, drill down, and go eight miles out and pick up the oil. Eight miles. It is called directional drilling, perfected in the North Slope.

So the technologies have advanced dramatically. The thing we have to do, to be very frank with you, and I'm, as you can see, a little biased here, I think there are people who have a view of how it used to be. And I'll give an example. When I fly into Los Angeles and you fly in, going into downtown, what do you see? These oil wells pumping up in the back of people's houses. That is not how it is done. You know, that is old technology. But people visually see that so they think, "Well, that just destroys everything."

But I think Alaska is a great example of how to extract the right resources to balance our need. And our future—if you saw it six years ago, people said we didn't have enough gas in this country. Today, because of the new gas finds around the country, we have 100-year plus supply because of new technology developments. So I think the military, oddly enough, is going to lead our way, I think, into innovation in new technology around energy and also drive the reason strategically, why we have to be more dependent on our own, natural resources for our energy source.

Will we ever be totally independent? No. Will we be less dependent on foreign resources? Yes. Will it happen over a short period of time? No. Can we do it? Absolutely. Again, I love looking at it. I'm trying to get the Armed Services Committee to do a committee hearing on what the military is doing around energy because there is

just incredible innovation going on there and we should brag about it and figure out how we can enhance that to really bring it up to a new level.

ATTENDEE: You remember back in 2006 when the North Koreans were getting ready to flight test their Taepodong missile. And former Secretary Perry and my friend, Ash Carter, wrote an article saying that it was a mistake to permit North Korea to do the flight test because they would gain such valuable information from it. At the time, Fort Greeley was able to come up to at least a limited capability. And so, instead of having to take Secretary Perry's advice and preemptively attack North Korea, which is what they suggested, the President of the United States had an option other than pre-emption or retaliation, if North Korea had launched toward us.

Taking that and the impact that having that option gives the President and the impact on extended deterrents, what can be done to change the majority's view on missile defense?

SENATOR BEGICH: Well, I have to tell you, this year— I'm one of these—as I said when I started, I'm a very optimistic person. Every day is a new day and opportunity. I remember when I came to the US Senate and I said, missile defense in the President's budget was not necessarily supported. And I was a little agitated about that, as you can imagine. "Welcome to the Senate. Oh, by the way, one of the biggest things in your northern part of the state is going to be reduced." It is like, "Wait! Hold it,"

And then, of course, the Armed Services Committee, especially my colleagues on my side, have not been very supportive. But I did not take that as a negative. So I sat down and we had our meetings on authorizing. We worked with them. I mean I spent the two days—I refused to just give in. And, actually, when I started I did not have support of the chairman and the ranking member, Senator John McCain (R – AZ), who usually supports it, because of the budget and some other reasons.

And so, my work was honestly cut out. I had a lot of stuff to do there. But we ended up with a bipartisan approach to it. I had Senators Joe Lieberman (ID – CT), Jeff Sessions (R – AL), myself, and a couple of others. We laid out an idea of how to manage this, recognizing they only wanted 30 silos up there instead of—30 over the system instead of 44. I won't go into all the details. So I had to argue a few things. And what was helpful, honestly, was meeting with General O'Reilly and understanding the capabilities of the system over the next five years, not the one year.

In the business you're in, it's not about the one year. When you get presented the one-year budget, from a legislative perspective, that is really not a show of what's going on. I mean, if I could develop all the weapon systems in one year, it would be great. But that is not how it works. It's not like building a road or building a park in a city. It's a different system. So we looked at the long term. What we found was there was a way to craft the language to allow flexibility of the administration, one, to complete seven of the remaining 12 because the first six were in trouble. They had issues with them.

So we said, "If you are going to get rid of those six, you are going to have seven." It was logical. It was very logical. And that is the first time I've seen logic prevail in politics. It was a very unique moment, to be very frank with you. But then we laid it down in a very rational way. We worked with the staff and we did our thing. Once we presented our case in a rational approach, not go get it all, just, "Here is how we need to maintain it and move forward."

Also, if we shut down after the seven or shut down now and tried to restart, it would be another \$40 to \$50 million of restart costs. Why would we do that? Why would we burn up taxpayer money on that? Why not have the capability and the flexibility? I think the comment you said, "Agile." Agility was one of the comments here. Well, flexibility is the name of the game. And so, at the end of the day, the whole committee unanimously supported our focus.

But I also knew the House had rejected our idea. So, something that most senators almost, probably all senators don't do, I went over to the House. I went over to speak with the Chairman about why this is important, and here is some new information they may not have had. Because one thing I've learned in the Senate, is the Senate is here. The House is here. And neither shall meet, which is a problem.

So my view is, I go over to the House lots of times. As a matter of fact, I went over to see one member to have lunch with them at their dining area and he had gone to the Senate. And I waited, waited. Fifteen, 20 minutes later he shows up and says, "I'm really sorry." He's a ranking member on Appropriations and so forth. And I said, "Hey. No problem." He says, "Usually the Senators have us come over because they don't come over to the House." I said, "Well, that's not how it works with me. I'm here to ask you something. So I'm going to go to your home and talk to you about what I need."

And I laid it out to him. And because of that, none of the language got messed within the Conference Committee. So it is an education process. As I mentioned, for Alaska, for a Democrat to be on the Armed Services Committee, the first time since 1968, there's been no voice from that perspective. There has been one voice on one side of the equation. You've got to have both in order to convince, especially now because Democrats are in control.

Saying that then, of course, things switched in the President's perspective in what he was going to do in Europe on missile defense. Well, to be very frank with you, I took advantage of that. I said, "Well, you're lucky we put the language in the bill, Mr. President and Administration. So we have an opportunity for you. So guess what's now going to happen? All 14 are going to get done. And, General O'Reilly in Alaska a week and a half ago said, "The missile defense system in Alaska is a 40-plus year project." I've never heard that before.

That's a good thing because now the system is starting to take ownership of this in a longer terms. It's not a political football. So I think—and also the case—people are still

in the old days of the test results from years ago. They still have that in their mind. They don't understand that it has improved and yes, the early tests are going to be bad. And why? Because they are tests. That is what you do. You test the improvement. Can you imagine Apple or Microsoft sitting around and saying, "Yeah, the first thing we put out, that is all we are going to do. It's going to be 100%." You know, that's not how it works.

So the version improved. The improvements on the technology improved. The testing got better. Testing is better now. But the problem is, this latter part of testing has not been really out there. People still use the old stuff. So we have to educate them on that back end. And that is what we are doing. And I'm doing it on a regular basis. Your news is 20 years old. Here is the new news. And then you walk through that.

So I think we've made a lot of headway this last year. And I feel very positive as we are moving into this cycle. Do we still have more testing to do on this system? Yes. Will there still be issues? Absolutely. Will we improve on it? That's what we have been doing every single year on this system.

Let me take one more because I'm watching the time here carefully.

ATTENDEE: Senator, thank you. Given, as you noted, the rising importance of the Arctic as a strategic theater, I wonder if you could just share with us some of your thoughts about some of the priorities about military investment, procurement and, certainly, in the Air Force. But also with regard to the Navy and, actually, the Coast Guard. I know we don't really have what we need. And I would like to have your ideas about what we should have.

SENATOR BEGICH: I like the way you say, "We really don't have what we need." We don't have anything that we need up there, to be frank with you. Here is the example I like to give. If you're on the North Slope, and something happens, maybe a ship runs aground or something happens, you have to call the Coast Guard in Kodiak. That's like being in the Gulf of Mexico with something going wrong and having to call New York

State to have them send something down. That is the same distance. So we have a significant problem.

The Coast Guard has been doing multiple tests up there over the last two years. They are an incredible crew that we have up there. You know, a lot of people who have been in the Coast Guard or who know people in the Coast Guard, Kodiak, Alaska, is the premier place to be. If you are in the Coast Guard, even though it is tough and rough, that's the place you want to be because that is the scorecard. Those are the credentials. Well, the next credentials will be the North Slope. I guarantee you.

So the first thing we have to do, and I have some legislation that is pending in front of Congress, some of that is moving forward on scientific research that is necessary. Understanding what we have there. There is no fishing allowed right now in that northern area because we want to know what the stocks are and the quantity. Oil and gas is carefully being managed, how we move forward. There are other mineral potentials. There is shipping.

There are cruise liners that are now planning to take a cruise. Now if that cruise liner gets hung up on a rock, we're in trouble. We are still trying to figure out what we own up there. And because we are not a signatory on the law of the sea, we have a significant problem. We are not at the table. And I remember being on talk radio a couple of weeks ago, or a week ago, I said this. And this guy calls with the theory that the world is going to collapse if we sign on to the Law of the Sea.

And I said, "Well, military, industry, the communities, the political powers, they all want us to sign on." Why? Because we are not at the table and that leaves us at a disadvantage. So we have to be at the table in the Law of the Sea. The other piece is, you know, it's hard to explain to people. As ice is melting, we still have to get a new ice breaker. It is outrageous that we are leasing our ice breaker for research up there from Russia. That's who we lease it from. That's outrageous.

We have three, one operable, and two that are not. And the one that is operable, you know, in Alaska we are a big consumer of duct tape. And I'll tell you, it's wrapped tight. It's obscene that we do not have the proper equipment to look at the area that is most long-term viable. Now saying that, along with the military, as I mentioned we have three commands. We have to have that resolved and I leave it to the brass—but sooner than later. We have to understand what everyone's role is up there.

The Navy is already, as I mentioned, starting to do SONAR testing from the North Slope. I think there is Coast Guard infrastructure that is first and foremost critical to put up there, wherever it may be, North Slope, Nome, Kotzebue somewhere in that region. We have to have the capacity. The second thing is, I think it offers unique training and grounds in regards to the military. But also, we need to have some military presence up there because we have other countries who have no problems in flowing through waters we didn't even know were our waters because we haven't mapped them properly.

So I think there is a strong presence. The Coast Guard has to be foremost. We got to get infrastructure up there. It's a life safety issue. You know, you get on a cruise liner carrying tens of thousands of gallons of fuel that runs aground, the industry—forget the fishing industry, which will be damaged by itself. The future of any managed oil and gas exploration will be diminished rapidly. Even though it won't be connected, it is fuel that has caused the problem.

And we're spending so much time debating the Arctic. We can still have those debates but we need to put infrastructure in there. And the North Slope communities are ready and wanting. It would be different if the communities up there were saying, "We don't want anybody up here." That is not what they are saying. They are saying, "Help us protect this area in the right way, civilian-wise, military-wise, and others."

I think there are a lot of things we should be doing. On my Web site I have seven pieces of legislation I have introduced, strictly around the Arctic. That is everything from, I think there should be an ambassador that focuses on the Arctic. We need to raise that level.

When we sit with other countries, it is ambassador level, except the United States. So our capacity to make decisions is limited. So we should have that. We need scientific research in regards to Arctic oil spill capacity, making sure we are protected. Infrastructure investment for the Coast Guard. Science and technology research, which we are really marginal at when it comes to Arctic. We don't understand it.

And then, on top of that, as the water issue, we have another issue, which is all the melting of the permafrost. As the Arctic melts, the permafrost is melting, which, again, has huge emissions issues. It's an unbelievable place, a beautiful place. But if we are not careful, because of our inability to decide things because of politics, we are going to cripple the one place that has incredible potential in a variety of areas for us.

Sorry. I didn't mean to go on. The Arctic is a big issue, as you can imagine. Let me say, thank you very much, and I appreciate the time and, again, thank you for the honor to speak in front of your group.

[Applause]

Thank you very much. Thank you.

MODERATOR: Let me, on our collective behalf, thank Senator Begich for taking the time to be with us. He has provided truly an outstanding contribution to what we are doing at this conference. And we wish you the very best. We will all be looking at your Web site, by the way, I'm sure. Thank you, again.

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