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Transcript

FirstNet Board of Directors Webcast, Salt Lake City, Utah, December 9-10, 2014 ***Part 2 - Technology Committee***

BARRY BONIFACE: First of all, I'd like to thank all of you for joining us today, both live and on the webcast. Good to see some long-time faces in the room. In addition to that, I'd also like to thank Chief Burbank for this beautiful Salt Lake City day. He did a very nice job with that, as well as this beautiful facility that he's allowing us to use in hosting us here, so we appreciate that, Chief.

And we certainly would be remiss if we didn't also thank -- and I don't know if he's listening in on the phone today -- I hope he is -- our former CTO, Ali Afrashteh. I want to thank Ali for his significant contributions to FirstNet, as well as wish him good luck and a speedy recovery as he tackles his next endeavor. With that, I'd like to call on our board secretary to provide a conflicts notification and also give us a sense of some of the logistic for today's meeting. Uzoma.

UZOMA ONYEIJE: Good morning, everyone. I'm going to be reading the conflicts notification. It's substantially similar to what I read in the prior meeting. In advance of FirstNet's committee meetings, FirstNet's Office of Chief Counsel, in coordination with the Department's Office of General Counsel's, Ethics, Law, and Programs Division, has provided each board member with a summary outlining each of the material agenda items that will be discussed and decided during the committee meetings and the board meeting, and reminding them of their obligations under applicable laws.

Providing this document in advance to the board members allows them to identify any potential conflicts of interest and/or seek the advice of counsel regarding the identification of any potential conflicts of interest and recuse themselves from consideration of any relevant matters if required on the applicable ethics laws.

We note that each board member has been provided with the opportunity to review the agenda, and no board member, prior to the opening of this committee meeting, has indicated any recusals are necessary. At this time, I would ask any members of this committee that believe that he or she must be recused, to let that matter be known for the record. Hearing none, I believe we are ready to proceed with the substance of the day.

BARRY BONIFACE: Terrific. Mr. Secretary, would you please proceed with the calling of the roll.

UZOMA ONYEIJE: Barry Boniface?

BARRY BONIFACE: Here.

UZOMA ONYEIJE: Chris Burbank?

CHRIS BURBANK: Here.

UZOMA ONYEIJE: Kevin McGinnis?

KEVIN MCGINNIS: Here.

UZOMA ONYEIJE: Frank Plastina?

FRANK PLASTINA: Here.

UZOMA ONYEIJE: Ed Reynolds?

ED REYNOLDS: Here.

UZOMA ONYEIJE: Suzanne Spaulding?

SUZANNE SPAULDING: Here.

UZOMA ONYEIJE: And I heard her on the line. Thank you. We have a quorum.

BARRY BONIFACE: Terrific. So with that, we'll go to the minutes. I think each member of this committee has been provided a earlier release of the minutes from our September meeting. Any discussion with respect to those minutes? Seeing none. I will take a motion that we accept these minutes.

FRANK PLASTINA: Second.

BARRY BONIFACE: Second. All in favor, say "aye?"

ALL: Aye.

BARRY BONIFACE: Any opposed? The minutes are accepted. So with that, I will now turn it over and, first of all, welcome our new acting CTO and thank him for his soon-to-be additional contributions to the team here. He's been a long contributor, and we're very glad to have him in this new role, and Jeff is going to give us an update on some of the recent progress in the technical organization.

JEFF BRATCHER: Great. Thank you, Mr. Chairman. I'd like to start off by saying, on behalf of myself and the CTO team, we want to publicly thank Ali for his past service and leadership of the CTO team. We learned a great deal from Ali's mentorship and his extensive industry background, and I think he's helped create a very solid foundation for the CTO organization moving forward.

Mr. Chairman, I'd also like to thank you for coming out to Boulder and visiting with us in October and getting the opportunity to take you over to PSCR and see all the work they're doing on our behalf.

So moving into the CTO update, starting with our key focus areas, this slide represents the core of where the organization is focused. For FirstNet as a whole, we're focused on the top two priorities, which are really development of the RFP and the support for the consultation process. Within the CTO team we

are heavily involved in the creation of the documents needed for the RFP, and I'll be providing some further updates as we move through the slides.

We also have PSCR assisting us with testing, evaluation, and representation of FirstNet in the official standards bodies, and another big focus is our BTOP and early-mover support, that we have dedicated staff supporting those projects out across the country. The majority of our staff effort is dedicated to the development of the comprehensive RFP. And, in fact, most of the RFP team is out in Boulder this week, working on the documentation for that.

So, progress of some of the key technical acquisition documents that we'll need for the RFP, the basis is really driven by the market research and extensive market research we've conducted in 2013 and 2014. This included more than a hundred vendor meetings, 12 RFIs, and our own independent research and analysis of alternative approaches. This culminated with the draft Statement of Objectives and the most recent comprehensive network solution RFI being released. You're going to hear more about the details of this recent RFI later on today, that are in this committee meeting, from Michael Landry, who is sitting to my left here. The insightful and quality responses that we received from industry, state and local governments, and public safety associations are now being folded into how we're shaping the draft RFP as it moves forward.

I'll give you a little more detail on some of the key areas within the RFP and the focus that the CTO team currently has in that RFP. There's really eight key areas: market research, the system engineering plan, development of the architecture, instructions to offers and evaluation criteria, the operational testing and evaluation, performance monitoring, the lab strategies, and then source selection and engineering evaluation. This isn't just a ten-page document when it gets released, as you can all assume, so it will be a very in-depth RFP when that's ready for public viewing.

One of the key messages I'd like to highlight on this slide is that it's a federal-based acquisition of this magnitude and scale, and it's going to require considerable effort and development across all of FirstNet, and we have all components of FirstNet engaged and supporting the development of this RFP package.

Moving on to the CTO organization and its evolution, supporting the extensive effort I described in the previous slide, we definitely plan on the CTO portion of FirstNet continuing to grow and evolve over time, along with the needs of the network development and acquisition approach. Today we're focused on the planning and design and really focused on the comprehensive RFP. We have several lead engineering positions that are now held by federal employees, and we're also leveraging our specialized research and analysis resources via contractual basis with our blanket purchase agreement with three service disabled veteran-owned small businesses.

We recently welcomed two new lead federal engineers in the areas of technology planning and radio access network planning. Excited to have them onboard. And as we move into tomorrow and more longer term, it will become more important to have our lead federal employees in the CTO organization. The network development and deployment will take on greater focus, and the plan is to add additional resources in those areas. Our longer-term emphasis is on hiring the permanent technical federal employees that will be focused on the key functions that will persist post-RFP, and which are inherently governmental by design as that's being awarded.

By the time we enter into the operations phase, we will have filled out the CTO organization, and those will be focused on the network operations, quality and contract surveillance, systems engineering, and the lifecycle planning.

BARRY BONIFACE: Hey, Jeff, before you leave this slide.

JEFF BRATCHER: Sure.

BARRY BONIFACE: I have to say I was really impressed with the team you've assembled out there in Boulder. It's a really impressive group of people with a lot of very relevant experience. If you look at sort of where we are today from a resource standpoint in the technical organization, I mean, how do you feel about staffing? Do we have the resources we need to do the job that we have in front of us right now, which is largely RFP-oriented, or not?

JEFF BRATCHER: Speaking for the CTO organization, we're at a comfortable position, in my opinion. We have eight federal employees onboard, we have 16 consultants. We have another four federal employees in the lead technical areas in the pipeline, with some support engineer staff behind those that should be onboard within the next month or so. And then we also have an additional request for some more operations-focused consultants that will be joining us soon. So I'm comfortable at this point that the CTO organization has the resources needed to do what's being asked for the development of the draft RFP.

BARRY BONIFACE: That's great. I know that's not a universal theme across all of FirstNet.

JEFF BRATCHER: I was quick to clarify CTO.

BARRY BONIFACE: You were very clear on that point. Thanks.

JEFF BRATCHER: Great question. Thank you.

JEFF BRATCHER: So moving on, I'd like to talk briefly about identity, credential, and access management. So in today's public safety operation, shared or pooled devices are very common. They may be turned in after shifts, shared with another officer, firefighter, emergency medical service personnel. And in some cases there's pools of devices that are shared. For the commercial wireless networks today, as you know, you are a device with an associated phone number. It's not really tied specifically to you except for your billing address to make sure the bill is paid on time. And you may have multiple devices that are really personalized to yourself.

For our nationwide public safety broadband network, we feel identity, credentialing, and access management is going to take on an increasingly important role for our first-responder users of the network. They need to be able to pick up a device, sign into it securely, but be able to quickly and easily access all their approved applications, databases, and information that they'll need to do their jobs. And some of those users may have different access levels depending on the role and position that they're playing for an incident. So those may have different priority levels during an incident, and we need to consider that as we're developing the FirstNet network as it moves into that.

In October, fortunately Ali and myself, and our lead applications engineer, were fortunate enough to be invited to the national summit on ICAM that our good friend Chief Harlin McEwen, sitting in the

audience, helped spearhead along with Kshemendra Paul, who is the program manager of the information sharing environment. This office was set up and established in the wake of the terrorist attacks on 9/11 to encourage communications between local, state, federal law enforcement agencies, and the intelligence communities. So the summit brought together over 60 subject matter experts from local, state, federal government entities to examine how the current ICAM programs are operating and what FirstNet can leverage from these different programs moving forward.

We learned a great deal from the summit, and a whole plethora of new acronyms as well, such as NSTIC, FICAM, PIV-I, FRAC, SICAM and NIEF, among others, so a very big space for this ICAM area, and we're struck by the breadth and scope and how it really crosscuts all levels of government emergency response. They have a draft report of the National Strategy Summit that has been distributed last week, and we're providing inputs, along with all the attendees, and we look forward to having that final report to help us move forward with how we incorporate this identity credential and access management topics into our network, which we know is going to be a critical component moving forward.

So, cybersecurity is another topic that we're taking very seriously. We envision this document -- sorry, this network becoming a critical component of public safety's day-to-day operations, and then public safety must be able to rely on its confidentiality, integrity, and availability. We envision thousand points of access spread across the entire country for this network towards which cyber-attacks could be launched. So we must ensure that bad actors, manmade incidents, or natural disasters do not affect public safety's ability to do their jobs.

We've met and are meeting with several organizations within the Department of Homeland Security, Office of Security and Communications, as well as other federal agencies, and we're working with these organizations to develop the appropriate cybersecurity mechanisms into our network. And we've most recently posted a senior security architect engineer position and plan to have that position filled as soon as possible. We received over 200 resumes for just this position, so there's quite an interest level in this for our network, so I'm very glad to see that level of response.

So, switching topics, I'd like to update briefly on some of the activities PSCR is doing on our behalf. Again, for the test and evaluation aspects, they've been focused on priority and preemption and quality of service within our spectrum band, Band 14. As I updated at the last meeting, the basic functionality has been tested in the vendors' equipment that is currently in the labs, and most recently they've isolated and demonstrated three different preemption triggers. So, in other words, the ability to kick non-first responder data sessions out of our spectrum band when a first responder needs the bandwidth.

We've also recently kicked off tasking within the Public Safety Advisory Council as well, to help us define a framework for how we would implement this in the FirstNet network. So this would be critical as we implement this for those users and how we define a framework for their priority access and preemption capabilities, and that was kicked off last week in Oklahoma City with the Public Safety Advisory Committee, and we're looking forward to their valuable guidance and assistance on this so we can incorporate that into our RFP development.

The modeling and simulation team has been focused in the areas, working with our CTO RAN team on coverage design aspects, the public safety hardening aspects, and also we plan to utilize some of the real-world data that is now being collected in the early builder projects in Texas, in Adams County, to

develop models related to the framework of priority and preemption so we can actually model how this would work on the networks.

Jumping to the standards track, I'd like to briefly talk about the PCS-type certification review board.

BARRY BONIFACE: Hey, Jeff.

JEFF BRATCHER: Yes, sir.

BARRY BONIFACE: Before you leave that, it was impressive, you know, I visited the PSCR back in October, and certainly an impressive group of people as well, as well as an impressive facility. Since September you gave us the read out on -- Sue sort of interrupted the meeting and asked us about priority and preemption.

JEFF BRATCHER: Right.

BARRY BONIFACE: And I had to call you from the back row. I don't want to have that happen again. So, can you give us an update on any sort of key learnings or key findings since the September meeting.

JEFF BRATCHER: Sure.

BARRY BONIFACE: To where we are sort of today.

JEFF BRATCHER: Sure. So the team, they've isolated and demonstrated three of the critical preemption triggers that will be needed in the network to be able to make sure public safety gets the spectrum and the bandwidth when they need it. There's another trigger, which is being developed for user-based preemption and how they can implement that in the system. So they're planning on demonstrating and testing that over this next month, in the month of January. So that's another fourth critical element for preemption, priority, quality of service, that we're looking to incorporate into our system. Great response from the vendors that are participating. Again, this isn't a desired need in the commercial wireless networks today, so this is definitely some of the key features that we know our network will need, and we're glad to see the vendors already supporting that and development that into their roadmaps.

BARRY BONIFACE: I can think of a few people I'd kick off the network.

JEFF BRATCHER: Absolutely.

BARRY BONIFACE: When we're having dinner. My three children. But at any rate, thank you.

JEFF BRATCHER: Absolutely. No problem.

ED REYNOLDS: One other follow-up question to that. The preemption function that we're currently testing, is it, I guess, automatic, dynamic, in that, as the public safety identified users need bandwidth, they automatically, if necessary, preempt, or do we have to have some type of intervention to sort of declare, okay, we're now in the state of -- we're at DEFCON one, or whatever, we're at state of emergency, and so now preemption can go forward? Or it is automatic?

JEFF BRATCHER: They're actually demonstrated both those. The all thematic one, you set thresholds for based on your access class value on your device that would trigger that. If you get into a congested network, it kicks everyone else off, and those with the proper access class are allowed to stay on the network and get the full bandwidth needed. The last one I mentioned to the chairman's question is the one you're -- the second part of that, where a user or some other can trigger that automatically and have the bandwidth fully available. So they're doing both flavors, to answer your question. And the demonstration of those triggers are what they're focused on.

ED REYNOLDS: I'm most interested in the one that's automatic.

JEFF BRATCHER: Yes, that one is actually, they've demoed and that one was is, I won't say easier, but it's already being built into the products space.

ED REYNOLDS: So that would apply to any priority level of the -- is it 13 or 15 priority levels that we would assign to public safety users, even number 15 or whatever.

JEFF BRATCHER: Correct. It's all based in how it's configured in the system for --

ED REYNOLDS: We could configure it such that even the lowest public safety priority would effectively preempt non-public safety users also.

JEFF BRATCHER: Right.

ED REYNOLDS: They would get their access. Okay.

JEFF BRATCHER: Yeah. And the drive from the PSAC meeting, as Chief McEwen said, as long as he has top priority everywhere, everything else is fine.

ED REYNOLDS: As expected.

JEFF BRATCHER: As long as it's over Chairman Johnson, he's fine.

JEFF BRATCHER: So, moving into the formal standards development, PCS-type certification review board is the third-party entity that certifies devices for North American operators. So we have been participating, even prior to FirstNet being involved within PTCRB -- I should say with PSCR, to develop the Band 14-specific test regimes that will be needed within PTCRB so that devices that will be on our spectrum band are ready to be tested in these labs and certified to move forward. So we have those processes in place now. They're focused on the interoperability testing, the device to the cell site or the eNodeB as part of this certification.

They're also working on the high-powered devices that are unique to our band, and we have that capability of higher power devices, so they're building that into the process now as well. 3GPP update, the Third Generation Partnership Project, so the key efforts that we have the team focused on within 3GPP, again, are related to mission critical push-to-talk, the proximity services, or direct mode, for those that are familiar, and then the group system enablers, so that's group coms, how they do talk groups today. The green dot represents where they're at now in 3GPP, so that's December 2014.

Release 12 is scheduled to be frozen this month. So most commercial networks today are on release 9 and release 10. So as you can see, it's a two- to three-year lead cycle for the standards to be developed before you see the actual standards in the products that are rolled out commercially. So we're at a good point in time in the process to ensure these critical features as we move to a mission-critical-type voice on the network are in the standards bodies and we fulfill our obligation to the legislation to ensure we're using standards for our network. Release 13 is scheduled to work on into the next year, and the current target freeze date is March. These usually slip by several months.

One thing I'd like to highlight is there was announcement last week; South Korea is now going to dedicate Band 28 to public safety LTE for their public safety users in South Korea, due to some recent tragedies that they've experienced. So they've seen the importance of this, and they've actually had delegations visit both FirstNet, PSCR, and other agencies on how we're doing this in the United States. So, again, creating that global economies of scale, there's a big focus now within 3GPP and LTE for the support of public safety broadband. United Kingdom, South Korea, Australia, and Canada to name a few, so that's very promising.

Jumping in to wrap up, I'll give a brief update on where we're at with our early builders, four of those being the BTOP programs, and then the Harris County system in Texas. So, for New Jersey, I'd like to start off. We published, yesterday, a blog posting that's the first in a series of all five projects where we're sharing exactly what's going on within these projects and how we're learning and having the key learning conditions out of the projects on our blog site. The state continues their focus on the development and operations of deployable assets. We know that will be a critical element for our nationwide networks so we're working actively and collaboratively with the state and NTIA to support the planning and implementation of this project. New Jersey is a complex project. It has many groups, including the state and local entities needing to participate and collaborate. They've established multiple working groups to address some of the challenges for this project.

The Harris County, Texas, project continues to make progress with the deployment of their network. Again, it's one of the longest, I think, on-air networks so far for Band 14. We should have a finalized key learning plan with Harris County in the next several weeks, that's going to be focused on core transition, data analytics, and extended mode operations, as well as the use of Band 14 in special events and training.

Moving on to the New Mexico project, several members of FirstNet, including myself, attended an onsite visit in November, down in Las Cruces, New Mexico, and we were able to tour a couple of their proposed sites down on the southern border. They're close to their vendor award for their seven-to-nine-site system and they're going to leverage the core in Harris County to operate their cell sites in New Mexico. So we're looking to learn some key conditions on how that can be implemented, not only across state lines but for a remote-site operation.

Moving on to Adams County, they now have 15 of their 16 sites on the air, and they're going through their system acceptance and validation. They've also deployed, as you see in the police car there on the bottom right, Band 14 LTEs in that police car as they're doing their testing. And they have actually turned off their commercial service, and it's exclusively Band 14 for that officer, and seeing results and operations within the network. We should have their key learning condition plan finalized as well in the next several weeks.

They're also in negotiation to add an additional four sites to the Denver International Airport, which is the largest airport in the U.S.-based upon total geographic area, and it was ranked 16th last year as the busiest airport in the world. So we're looking to some great learnings out of that project and how it could cover that big of an area and focus for the public safety use for an airport.

And then finally, to wrap up with the LA-RICS project. They recently completed some key milestones for their deployment. The FONSI, for those that don't know, it's not Arthur Fonzarelli from Happy Days. It's actually the Findings Of No Significant Impact, and that's related to the environment, and it was executed and released by the NCI grant program on October 15th. This was really the last big hurdle for them to move forward and start actual construction. So they've started the construction on their RAN network, and that began on November 10th with the L.A. County fire sites, and they expect to have a total of ten sites complete by the end of the year, and 40 completed by the end of January 2015. Their primary core has been installed at the L.A. County fire command and control facility, and they have an eNodeB that's been installed in operational for testing purposes. They also plan to install antenna in-lines in the next week, and full testing will begin around December 15th for that project.

So, with that, Mr. Chairman, that concludes the CTO briefing for the Tech Committee. We've made some tremendous progress over the last quarter, and much more to do, but we're fully involved and committed for the RFP activities and all the other key areas. Any other follow-up questions, I welcome to address and happy to address now.

BARRY BONIFACE: Frank's got a question. Frank.

FRANK PLASTINA: Jeff, just specifically on the earlier part of the presentation, there are tradeoffs between security and timing and how long it takes somebody to get on the network and logon and usability. Obviously in a setting where you're logging onto your bank account, you can afford to take a little bit more time.

JEFF BRATCHER: Right.

FRANK PLASTINA: But in a public safety setting, as you can appreciate, that can cost -- literally cost lives. Is the CTO office looking at those tradeoffs and setting the specifications, or is that something you're looking to get input from the vendor community?

JEFF BRATCHER: I would say all the above. We did receive some good inputs based on the RFI responses on how this could be addressed in our network. But I also, back to the ICAM discussion, and that's critical to the identity and credentialing as well, single sign-on, how quickly access the data you need. So we're doing it across all levels, not just industry but with our federal government and state and locals that have implemented these early programs and how that could be best used for the network as we move into the RFP.

TJ KENNEDY: One follow up to that as well, is we've been working closely with the Public Safety Advisory Committee and their Human Factors Report and they have been given some very good advice on just those elements, how can a police officer or firefighter best leverage the technology and do it safely.

JEFF BRATCHER: Right. Great point.

KEVIN MCGINNIS: I have a question. Jeff, what specific devices are you finding in the trunks of police cars or wherever, to supply the modem for the Band 14.

JEFF BRATCHER: Are you asking vendor names or --

KEVIN MCGINNIS: I just want to know what the selection choices these folks have out there.

JEFF BRATCHER: There's quite a few that have been developed from various vendors, especially the vehicular modem category, where you can also have your commercial bands as additional cards within the modems. So there are quite a few out there. As far as specific, getting down to handheld side, we don't have a lot of those, and I think Michael will discuss some of this when he gets into his device discussion, because everyone is waiting to see what FirstNet is going to do with their RFP and network acquisition.

KEVIN MCGINNIS: Sure.

FRANK PLASTINA: Along those lines, just a clarification question. My understanding of Band 14 and those types of devices is it's the radio that's tuned to that part of the spectrum; whereas the application level on that device can look and feel like any other device; therefore you can get economies of scale.

JEFF BRATCHER: Absolutely.

FRANK PLASTINA: Is that a correct way to look at it.

JEFF BRATCHER: That's a very correct way.

BARRY BONIFACE: Anybody else? Good question.

BARRY BONIFACE: Terrific. Well, Jeff, thank you.

JEFF BRATCHER: Thank you.

BARRY BONIFACE: Thanks to you and the team for your efforts, and we look forward to continued progress. So with that, let's switch gears and talk about the public notice and comment process and some of the early findings associated therewith. As all of you know, this was a critical input into the RFP process, and we certainly appreciate all of the input and from the various stakeholders and the level of participation by those stakeholders. I think this was a very open opportunity, and I think people were very open in their responses, and so, again, thank you for that. With that, I'd like to turn it over to Eli Veenendaal, who is a FirstNet attorney advisor, to give us an update on that process. TJ?

TJ KENNEDY: Just a real quick note up front, one of the things, as you've seen, with our teams start to grow and the supervisory management team that we're putting in place, you're going to see today in this committee meeting, as well as some others today, some new faces you may not had as many briefings from in the past and additional input. And today we're going to have both Rich and Eli and Michael on this committee meeting giving you updates. And I just want you to know, I mean they really have taken on key ownership of key tasks that are being done, both from the consultation side, from the public notice side, from the RFP side of the house, and as we work through that, we know it's an important opportunity for them to be able to brief the committee, and I appreciate you going easy on

them here today as they break into that. But just wanted to kind of prep that they've done a good job of getting ready for today's meeting and really own key elements of what's going on and appreciate that.

BARRY BONIFACE: We'll certainly be easy on them, TJ. But welcome, Eli.

ELI VEENENDAAL: Thank you, Mr. Chairman. So let me begin by providing a brief overview of where we're at, including how we got here. So on September 24th, FirstNet published in the federal register a public comment seeking comment on our preliminary interpretations of the Act. The notice invited any individual or organization to submit comments on any of the topics discussed. As is typical with the notice and comment process, all the comments have been made public and are currently available on regulations.gov.

So the topics that we looked at in the notice crossed a broad section of the topics within the Act. But primarily we focused on things like network elements, users fees, among other topics. The comments that have been received as part of the notice are intended to help inform the RFP, as was mentioned earlier, but also help inform any network policies or FirstNet's operations moving forward.

So where we're at today, we're still analyzing, in detail, the comments, and we've made no final determinations on what these interpretations are. So for the purposes of today's presentation, it's to provide a high-level summary of the responses we've received to some but not all of the topics in the notice.

So this slide gives us a nice overview of who responded to the notice. We had a total of 63 responses from a broad group of stakeholders. States and associations led the way, as well with a strong showing from vendors and utilities, as well as carriers. This, we thought, gave us a nice cross section of respondents and helped us really get some key inputs from stakeholders that have interest in what FirstNet is doing. You'll notice that the tribal and the private citizenship levels were a little low. And, although they were low, the responses that they did provide were very detailed and provided a lot of good inputs for us.

So, moving to the first topic that we discussed in the notice, it was in relation to the FirstNet network. It was specific focus on the radio access and core network. So the Act requires FirstNet to establish a nationwide public safety broadband network based on a single national network architecture. Now the Act requires this architecture to consist initially of both a core and a radio access network. So the core network on a high level, is initially to consist and provide connectivity between the radio access network and the Internet and the public and private switch. And the radio access network is intended to have equipment and wireless communications that will provide wireless communications to the public broadband spectrum.

So these definitions were important, as I mentioned, because we're required by the Act to have a single nationwide architecture. The proposed definitions in the notice added additional detail to the specific definitions that were in the Act, as well as those provisions that discussed this in the interoperability report. So, the majority of the comments -- excuse me, so our definition actually supplemented both the Act and the Interoperability Board report and provided more detail on what elements would fall within which bucket of core or RAN. The majority of comments, as you can see, agreed with our proposed definition but brought up some good points that they needed a little bit more information on where the line of demarcation might be for some really specific points, as well as wanted to provide more input and see how states would be able to interact with the core network.

So, one of the questions that we needed to figure out was how would we ensure interoperability in the case of a state choosing to opt out and build its own radio access network. So we went out and asked this question and proposed an interpretation that opt-out states would be required to use the FirstNet core to provide services to public safety entities. Now this interpretation is consistent with the Act, and as you can see, the comments strongly supported the interpretation we put forth. So I'm going to turn it over to Stuart for a moment to discuss the next slide.

STUART KUPINSKY: So as Eli mentioned at the outset, we haven't drawn any final conclusions here, and I don't want anyone to think that our pie charts indicate, you know, a majority-rule determination based on the comments. We would have stacked the deck had that been the rule. So just to sum up, though, on this dramatically over-simplified diagram, we did want to clarify a couple things for the board and for those viewing, in terms of the comments we received, on occasion, drawing conclusions from our notice that were not intended.

So number one, as Eli indicated, there were some concerns about the demarcation point between the RAN and the core, and in particular, there were helpful comments, actually, about where particular points of demarcation could occur within a state for an opt-out scenario for example, where back-haul services, in addition to equipment, would be part of the RAN for example, and then the core would hook up to those back-haul services at particular demarcation points. And so, generally speaking, we agreed with the comments that were filed. We continue to analyze them, but we agreed with those comments about the fact that back-haul services, generally speaking, would be part of the RAN to a certain demarcation point.

Another comment that showed up a few times was a question about whether our definition of core somehow subsumed existing state databases. And so we obviously did not presume to take over or commandeer in some way, shape, or form, existing state databases. I'll state that for the record.

And there was a secondary question as to how those state databases would ultimately hook up to the FirstNet network, and in particular, whether state databases would have to go through, for example, the public Internet in order to get to our core. Our initial vision is that those types of state and local databases would hook directly into our core and wouldn't be subject to vagaries of the public Internet. So the combination of the two is, you know, obviously state databases remain state databases, but we envision direct hookups to our core to facilitate communications and exchange of information on the network.

And then finally, although, as Eli indicated, there was overwhelming support for our interpretation that opt-out state RANs would be operated or controlled by FirstNet's core, there were some commenters that inquired about the extent to which opt-out states, and opt-in states to some extent, could have their own core or core-related function, such as billing or other types of provisioning functions local to the state. Now, we continue to look at this issue in conjunction with the CTO organization, et cetera, interoperability and priority and preemption are paramount for us, for purposes of traditional public safety. And so while we are looking at this, our concern, obviously, is that we preserve the interoperability and preserve the ability to prioritize and preempt above all other considerations for public safety. You know, for example, the State of Illinois had a fairly thoughtful recitation on this, that the network itself was going to be fairly complex across the board, introducing distributed cores run by, you know, non-FirstNet entities might complicate the network even further. And so we're reviewing

these types of comments and trying to make an assessment in conjunction with the CTO organization. Eli?

ELI VEENENDAAL: Thank you. So one important topic that was discussed in the notice related to how to account for advances in technology. Now there's some natural tension in the Act on this topic. So the Act requires FirstNet on one hand to construct the network without materially changing the technical requirements of the interoperability report, but also requires FirstNet to accommodate these advances in technology. So FirstNet net sought comments on how to reconcile these two requirements. And the comments were very helpful.

The responses seemed to indicate that FirstNet should rely on provisions discussing accommodating technical technology in the interoperability report when it had spoken on this issue. But in cases when it hadn't, that we should be able to evolve to conform with the industry standards when the interoperability report was silent. So very helpful comments.

So the next couple slides discuss a provision, a requirement of FirstNet to utilize existing infrastructure. So this first slide, there's some language in the Act that was unclear, relating to the process for how we would leverage this infrastructure, so specifically the Act reads that FirstNet shall establish in establishing the network, shall encourage that requests leverage to the maximum extent economically desirable existing commercial infrastructure. So this language encouraged that request, we found a little unclear. So, to clarify, we proposed that the intent of the provision -- we proposed that the intent of this provision in the Act required FirstNet to encourage, through its request, that responsive proposals leverage existing infrastructure, and that was unanimously agreed within the comments that we received.

Within this same provision, the Act requires that an economic desirability assessment be made in determining how to leverage the infrastructure. So, again, the Act states that FirstNet is required, in establishing the network, to encourage requests to the maximum extent economically desirable leverage existing infrastructure. So this economic desirability assessment was something that we were trying to figure out who would make that assessment, whether it would be FirstNet or one of our vendors, suppliers, or partners.

So, the majority of responses indicated that FirstNet should be responsible for making that assessment, or, at a minimum, at least providing a range that would allow suppliers or partners to be able to determine to understand what would be considered economically desirable. And I'll turn it over to Stuart for this final slide.

STUART KUPINSKY: So this is kind of a funny slide. The Act has a very peculiar formulation under the definition of covered leasing agreement, and in particular, talks about long-haul networks and dark fiber. And we just wanted to highlight the brave Arizona comment, in being the only commenter taking on, head on, the specifics of the definition of dark fiber in the covered leasing agreement definition.

The comedy aside, so to speak, I think it is important to highlight, though, that unlike a normal agency running a notice in comment process under the APA, we run these for multiple purposes, including our consultation obligations. And so we value the input, regardless of where it's coming from, on a lot of these provisions. And so we applaud Arizona's effort here and would encourage in subsequent processes, to the extent that they arise, that commenters provide whatever views they have, even if they're not directly in line with their particular interests, so, and with that.

BARRY BONIFACE: And, Stuart, for planning purposes, we're going to cover, in a couple of the other committee meetings some of the other topic areas that were related to this response; is that right?

STUART KUPINSKY: Yeah, that's a good point. We probably should have talked about that up front. So, just as we did when we were reviewing with the board the proposed notice, before we sent it out, we broke up the topics into, if you will, the jurisdictional areas of each of the committees, and today we're doing the reverse of that. We're taking the comments and summarizing them, and each of the committees will be do a very abbreviated hot topics overview for the board meeting tomorrow. We will have, potentially, board members that are not in some of the committee meetings and the board meetings tomorrow, et cetera, and so sort of on behalf of the committee chairs for read-out purposes, we'll do that for the full board meeting, but it will be very brief.

BARRY BONIFACE: Good. Thanks. Well thank you, Eli. Welcome to the team.

ELI VEENENDAAL: Thank you.

BARRY BONIFACE: And hopefully that wasn't too rough. Anybody have any final comments for Eli or Stuart? Uzoma.

UZOMA ONYEIJE: The only thing I'll mention is that what Stuart just referred to, about breaking up the topics, is true, both for the notice and for the RFI, that Michael is about to get into now.

BARRY BONIFACE: Terrific. So with that, let's move to the RFI, and another new addition to the squad, Michael Landry is going to give us an update on that. Michael.

MICHAEL LANDRY: Thank you, sir. Good morning. I'd like to take a few minutes, talking about the responses to the latest RFI released recently. I also want to take a moment to acknowledge the support we've had from the Defense Information Systems Agency (DISA) and their support issuing the RFI, managing the responses, and handling the aspect from a contracting perspective. Getting into the RFI responses, we do have a bit of a challenge, because, unlike the public notice and comment aspect, this is proprietary information that the industry is providing us. We need to allow that level of confidentiality so that industry can properly respond confidentially, and then we get the best results from that type of response.

Internally, you know, FirstNet does manage these responses differently. We do password protect the documents. People have a -- you know, if you have a need to know, then we have a nondisclosure agreement on file for access, not only for the RFI responses but also any acquisition-sensitive documents.

So, the reason we do RFIs is twofold; one is to gain knowledge from the public on subject matter expertise, and the other is to determine if FirstNet needs can be met by the marketplace through a competitive process. So I want to reflect back on past -- Jeff mentioned the 12 RFI instances from last year. That's all been a learning process for us. So that information, the 12 RFIs from last year, plus the information we've gained, I think from some exercises before that, culminated in the development of our Statement of Objectives, and which also turned into the release of the recent documents, which does not only the 15 SOO objectives but also 30 questions that we released.

So, what came out of that was release the RFI, and we received 122 responses, which was over 3,000 pages, which we have reviewed. We're still reviewing some of this information, but this is what we're going to go over now, is some of the highlights, what we've gleaned from that initial cursory look at what we received. Probably first and foremost of the information that we received is the responses to the SOO do support the SOO objectives, the responses of the RFI do support our SOO objectives. So, bottom line, we're on track with what we're asking for.

So, with that 3,000 pages and 122 responses, how do we manage that? So, we were impressed with the quality and also the depth of the responses that we received. It was very clear that a tremendous amount of time, effort, and money went into the development of these responses, so I think it's important for industry and the states and other responders to understand that FirstNet also took that seriously. So to handle this large number of responses, we created 16 cross-functional teams across the organization. If you go back to the previous 12 RFIs that went out last year, those are more device or core specific, which are mostly managed by Jeff's team and the CTO folks. That learning process and this release of the RFI and the way the questions were formed, required more of a comprehensive across the organization look. So that's why you'll see, as part of the teams we formed were CTO, legal, again, across the board.

So what did we learn? So the marketplace has assured us that they can deliver a network meeting FirstNet's objectives. That's pretty clear. And the responses also provided us a variety of options of how to meet these objectives. So looking at the magic quadrant, what we learned was that the quantities -- we quantified the approach types in terms of complexity and size. Let's look at the top of the axis, that was one contract, versus the bottom of the axis, many contracts. Again, this is what the respondents recommended. And also, the vertical axis you can take it a look at it. It says many contracts -- excuse me, horizontal axis, you look at single nationwide approach on one side and smaller geographic approaches on the other side. From the responses, it's clear that many possess a skill set to compete depending on the approach. So there's competition in the marketplace that can support FirstNet's needs.

Some respondents focused on cost synergies of a nationwide approach. There was also a suggestion regarding the maximum value for the spectrum could be realized by providing it exclusively to one single provider. Others cautioned against one single provider, noting that more limited coverage, and suggested there was increased spectrum value through desegregation. There was no consensus amongst respondents on the optimal geographic size. So, it's important, we did not see a financial analysis backing up either of these approaches. We understand that's a very hard topic.

So, back to a couple comments that Jeff had made about 3GPP. It's clear that -- well for one thing, the enabling act, our enabling act requires we adhere to industry standards, so the responses we received supported that approach as well, and, in particular, called out for adherence of the 3GPP standard, so 3GPP, Jeff also alluded to this, that's that LTE standard which drives, first, the requirements that we're adhering to. 3GPP also includes adherence to core, radio, those type of things.

So the respondents, again, they were clear in their guidance to avoid proprietary solutions as well. So now those are more high-level objective or high-level looks what the RFI responses provided. So now we're going to get into a little more detail about what the actual SOO and the responses to the actual SOO and actual questions. So, when you take a look at the slides, you're going to follow out what Eli had as far as number of respondents quantified, and what I'll do is highlight some of the key themes that we came out with.

So, as Jeff mentioned earlier, and there's some discussion amongst the board, end-user devices. So when we think about end-user devices, that includes the typical smartphones, but it also includes unique public safety-specific devices. It's also important to understand when referring to Band 14 we're talking about the particular block of 700 meg. spectrum that FirstNet is issued to support public safety. So what we're very encouraged by the responses to the end-user devices and the device availability.

So, the devices are in the marketplace today, as Jeff alluded to earlier, even before FirstNet has launched its network. This means that the pump is primed and there are a few key things that need to happen before the industry opens the spigot to full-scale production. At that time, we believe production will achieve the economies of scale that we think are necessary and in the best interests of public safety, will ensure that our acquisition approach addresses these important factors.

Another slide on the Band 14 devices. Respondents were consistent in their call to maximize Band 14 inclusion and the broadest mix of devices. Some even suggested that this should include or should be achieved through regulatory approach or possibly a tie with Next Gen 911. Now, at this point, FirstNet does not believe that any type of regulatory approach is needed for that aspect. Moving forward, our acquisition approach will be mindful to ensure that these devices are available when we need and when we need them.

So with FirstNet building the public safety broadband network, the network needs applications tailored to the unique needs and security requirements of public safety to realize the true benefits of the network. An entire network's application ecosystem will be required to deliver those applications, including an app store, like you've seen with Apple and Android devices. Through the responses, the marketplace has affirmed that there are players, both large and small, that can deliver public safety applications. Many suggested the focus on apps that integrate with PSAP, Public Safety Answering Points, functionality to support first responder needs. Bottom line what we gleaned from these responses was vendors or teams of vendors have told us that they can deliver a complete apps ecosystem.

So, the Act calls for a national core, near unanimous support on this question. It's the heart of the network, like Jeff alluded to earlier, it's the heart of the networking, including essentially all the functions except for the radio -- except for the RAN information equipment out in the field. Above and beyond the Act, we believe that FirstNet national core is important to ensure nationwide interoperability, service provisioning, security, and public safety specific features. Moreover, a national core ensures the network can be updated on a schedule of every few years, as opposed to your traditional LMR networks, which typically have longer timeframes. There was near unanimous support for a national core across all types of respondents. Many commented on the need to distribute the national core geographically for performance, reliability, and redundancy. Many commented on the need for a common applications framework an adherence to 3GPP standards to ensure interoperability between the core and multiple radio access network providers.

So, as you know, we're going to have a plan for each state. So, what we're talking about here is the opt-out states and the RAN integration. So the Act allows states to seek approval to opt out, to build their own radio access networks, while still using the FirstNet national core. Even if a state opts out, there must be interoperability across the network, including the opt-out state. So this was a big topic. 49 responses out of the 122 addressed the opt-out state and RAN integration. Primary theme that came through here was the need for FirstNet to establish clear minimum technical requirements and service-level agreements. This is necessary for the opt-out states to comply and ensure that opt-out states

remain 3GPP compliant. This works to ensure interoperability and cross-functionality across the network.

So there's near universal agreement on the need to utilize existing infrastructure, both public and private. This goes back to the economic desirability approach or question. Almost no one suggested a new build approach because they understand the negative impact of both costs and a need for speed to market. There was a lot of comment on leveraging existing infrastructure, but no one really provided a clear concrete method on how this should be achieved. This is a hard problem. We understand that. The arguments were more quantitative. There was, however, interesting recommendations on how localities or states might fund supplemental sites to provide additional coverage as needed.

So, back to the economic desirability. Some responses even suggested including the states or even third parties in determining economic desirability. What's important is nearly all responses to the questions prefer that FirstNet retain its responsibility and FirstNet make the final decision regarding economic desirability determinations.

The system hardening. Public safe requires a reliable network. The key element is making sure that FirstNet works even when other network do not. So basically industry is responding to us, and they're saying we expect FirstNet to have a higher level of reliability than your traditional commercial networks. Hardening the networks is a complex problem that applies to all levels of the network, from the physical sites, cybersecurity, from the core to the radio layer, across the board.

Again, there was recognition by respondents that FirstNet has to balance cost and system hardening. So we'll have to look at the hardened sites in ways appropriate to their particular threat posture, meaning that where these sites are located across the country. For instance, sites in Florida will have to be hardened against, you know, high gale hurricane winds. Earthquake prone areas, we have to harden against structural and earthquake type activities. And also hardening sites, for example, wild fire, against wild fires, to make sure that these networks remain operational when traditional commercial networks are down.

So, the priority and preemption question. So priority and preemption is the act of public safety first responder requiring service, and because of their status as a first responder, having priority over non-first-responder users. Preemption is a process of preempting ongoing calls to provide service to a priority user. Nearly all agreed on the need for priority and preemption functionality. Many stressed the need for well thought out governance structures on how they might be implemented during emergencies. In particular, states emphasize reuse of existing governance structures. One respondent noted a recent study that identified weaknesses of priority changes during a crisis event. It's important information to us, so that's something we'll typically be following up on. It is also learning to what Jeff mentioned earlier, working with the PSAP, PSCR and PSAC, to create and pull in additional information regarding priority and preemption. So it's hard to argue against a reliable network; right?

Restoration refers to the ability to restore services after an outage due to natural or manmade disasters. Higher availability requirements are mandatory. Deployable assets, such as COWs, your cells on wheels, your COLTs, your cells on light trucks, are looked at or viewed as ensuring a higher level of the ability, availability of the network. Industry understands that public safety expects FirstNet to be more reliable than your existing commercial networks.

ED REYNOLDS: Question about that.

MICHAEL LANDRY: Yes, sir.

ED REYNOLDS: It really relates to this, and also back to the slides you had a few slides ago about hardening. These responses seem, to me, to be not in sync with what my thinking has been to date, and maybe I'm alone in that, but I don't think so. It seems to me, from the outset, we have been -- I have been -- I'll just put it on myself. I had been assuming that the network we're looking to establish would be not just more reliable than the commercial networks, but needed to be as reliable as the LMR networks are today, which is almost bulletproof. I mean they are -- I remember visiting New York City after Sandy, and remembering Chuck commenting to us that there was not a single second during that entire episode of Hurricane Sandy and its aftermath that a police officer in New York City, anywhere in the city, did not have access to their LMR network as they were accustomed to 7x24. And that's, you know, a credit to their hardening and their redundancy of received sites. So some things you can do with LMR you can't do with LTE.

So I'm a little concerned that there seems to be a flavor to the comments. I noticed on the hardening one, I believe the majority, or about half of the commenters were from industry. And so if I were in industry and commenting, I might make the same comment. You don't need to harden everything. But as someone charged with serving the interest of public safety, I'm a bit concerned that I see these comments sort of leaning that way. Am I alone in that, I mean, because I do think it's not just not enough that this network just be better than, whether it's a little better or a lot better across the networks. To me it has to be pretty much as reliable as LMR today.

TJ KENNEDY: I think, Ed, you've hit on two important things. One is Michael and the team are reporting out on the feedback we received in the RFI.

ED REYNOLDS: Right. I understand there's no decision, no, all that, but I mean I'm just raising the flag of concern.

TJ KENNEDY: Understood. And one of the things is this system of hardening, and it encompasses a number of things right? I mean it's really about -- it's not just hardening per se, it's about power and resiliency when it comes to keeping sites up. It's about weather, in all the different elements that are different in different parts of the country. And Jeff has really worked hard with the Public Safety Advisory Committee and with industry to look at what's the most cost-effective way to get the most resilient network, and I want to have Jeff maybe comment on that for a minute.

JEFF BRATCHER: Yeah, great question. I would just add, we also have another effort we kicked off last week with the PSAC in Oklahoma, related to the public safety grade and the level needed within this network. So they'll be helping us in going through, you know, as submitted, the public safety grade document that we received several months ago, and what are those critical elements we need to build in up front and what we can phase in overtime as we build out the network for the first responders. It's obviously going to be a cost tradeoff scenario. We're also looking at some unique approaches where we could have a skeleton-type or backbone type network. If everything else fails, we've got critical sites to provide that coverage and focus on hardening those sites as we get moving with the network. And a lot of it will be dictated by the partner solution and how the RFP plays out as well, with those requirements going into the RFP.

ED REYNOLDS: I just think if you take the long view, I mean initially this is going to be a data network, data video, as a supplement to, and LMR will still be primary mission critical voice. But as we saw on a couple presentations earlier, we're heading toward, when we get, you know, PTT and so forth, where this network could provide mission critical voice. And if it does, and if it is adopted as the mission critical voice network, then I can't see public safety accepting, I wouldn't want them to accept going backwards from what they have today with LMR.

MICHAEL LANDRY: Absolutely. I absolutely agree. And we have no plans --

ED REYNOLDS: You have convergence out there in 2020 or beyond, but I mean we need to think about the path from here to there.

MICHAEL LANDRY: Absolutely. And we have no plans right now to put mission critical voice on the network until public safety tells us it does meet what they're their expectations are and needs for that capability on a broadband network.

ED REYNOLDS: Okay, thanks.

FRANK PLASTINA: Just to echo Ed's comment, one last thing, in terms of planning for the future, you know, mission critical voice is so difficult because it's real time, obviously mission critical video will become a requirement some time in the future, and that's where everybody's moving. So that mission critical hardening aspect, as it pertains to a broadband application, is going to be a must at some point, so I would urge CTO office, everybody, to consider that's, you know, a five- to ten-year evolution, but it is going to be a requirement.

TJ KENNEDY: No, I agree, Frank. I think as public safety starts to leverage the data and video capabilities that are part of this network, it will become part of what they do each day, and become mission critical as well. Michael?

MICHAEL LANDRY: Thank you for that. So lifecycle innovation refers to maintaining currency to existing technologies or capabilities. Upgrades and innovative capabilities are introduced or included in planned lifecycle upgrades. Most respondents to the objectives stressed the need for a published FirstNet roadmap the equipment manufacturers RFP respondents could align with. Also included suggestions to the detail of the roadmap in the RFP. Others suggested necessity for a FirstNet test bed to ensure adequate testing of devices and features prior to the deployment. Respondents also included comments to track back to the slide referring to the need for, again, adhering to the 3GPP standards.

So these slides were the major themes we pulled from the responses, so we're almost finished with the analysis, probably mid-December, a little after, as we'll have a report wrapped up. So the next step in the process is determining what changes, if any, need to be incorporated into the RFP. But, I think it's important to keep in mind that the purpose of the RFP, RFI has been satisfied and that our SOO objectives were largely affirmed. There's current competition in the marketplace to actually make this work.

So what got us here? So back in August, we came through with a plan. We drafted the RFI and SOO back in September. We reviewed the RFP approach at the September board meeting, at which time the board approved the RFI and SOO. The day after we released the draft SOO and the RFI, and, actually, we extended the due date of the RFI, I believe, another week or, actually, ten calendar days. So we

reviewed the 122 responses, again, over 3,000 pages during the October/November timeframes. We're going to continue working the responses and developing the RFP so that industry can respond to the draft.

So we all know that the RFI responses are not the only input to the final RFP. There's a lot that goes into it. There's the public notice and comment, and there's also the consultations, and it's a huge part of the RFP. So with that, I'll kick it over to Rich.

RICH REED: Good morning. My name is Rich Reed. I'm the director of State Plans at FirstNet, and I have been heavily engaged, along with my colleagues, Amanda Hilliard and Dave Buchanan, in state consultation, initial state consultation. I'm going to spend a little bit of time this morning explaining how we're going to get that critical input from our consultative efforts into the acquisition process.

So, as Eli and Michael have mentioned, as we develop opinions through the legal process, we're going to have a very transparent way, through the public notice and comment, to actually vet those opinions with the public. And that's going to be a key input to the draft RFP, as it shows on the slide. Michael talked about the RFP process and the Statement of Objectives and validating the industry desire to partner and work with FirstNet. We've achieved that through the RFI process. But I'm going to talk a little bit more about the consultative process and how we're going to get state input and federal input, tribal input, and stakeholder input, in general, into that acquisition process.

The Act is pretty clear, that consultation and preparation of the RFPs are required. It talks about seven different elements that we have to consult with the states on, prior to developing a request for proposal: construction of a core network, the build out of a radio access network, tower locations, coverage areas of the network, adequacy of hardening, priority of local users, security, reliability, training of local users, there's some of the elements in the Act that we have to do in development of the RFP process.

In addition, we're going to look at other elements that are important to the user community in developing the request for proposal. And we want to make sure that the state's unique needs and desires and the unique operational and topologies of each state are really accounted for in the acquisition process. That's going to happen through that unique state consultation through the single point of contact.

There's a broader consultation, and we're considering every time we engage with the stakeholder community as a type of consultation. The Act was silent, for example, on federal use of the network. We understand that to properly size and scope the network, we're going to have to go out and talk to potential federal users and assure that as we build out the network it's appropriately sized with capacity to account for the entire user base, as well as that we have coverage in areas where our potential users will need to leverage the network.

So the draft RFP process, we're taking an outcome-based approach. So, rather than developing a very specific statement of work, we're looking at a statement of objectives, an outcome-based view of what the network, how the network should perform. So, for example, if you were to build a car or ask for a car to be built, you could go out and ask for a four-door blue sedan with 17-inch wheels and 240/65 tires, a 5-liter engine, leather seats, heated seats, we could specify all the components of the network. But what we're going to do and what we're going to attempt to do is go out and ask industry for a vehicle to carry five adults safely a hundred miles on one tank of gas, and let industry come back and tell

us the best way to achieve that outcome. So it's a way to allow industry to really think through what our goals are and how to achieve them in the most cost effective way.

So, as we look and we go through and we have the dialogue with states, feds, stakeholders in general, we need to make sure that we're asking the correct question in that acquisition so that we get the desired outcomes. That's our acquisition process and goals in a nutshell. What you don't see on the slide is beyond that comprehensive RFP, the output of that acquisition is really going to be our cost basis. It's where we're going to figure out what it's going to cost to build it, what the coverage areas are, and the initial operating capability. Those are the questions that the stakeholders we're engaging with at the state level really need to know to make the appropriate decisions. So one of the key inputs to our state plan will be an output of an appropriate RFP process. So we won't be able to get to that state plan for governor's decision until we have the outputs and the cost basis of that acquisition approach.

Beyond the state planning process, we understand the network's going to continue to live, breathe, grow, and we're going to have to add capacity and coverage, and we need to continue that dialogue through the consultation process well into implementation. We need to continue the dialogue with the states and the federal agencies, and all of the stakeholders, to make sure that we are appropriately growing the network in a really technically sound, and fiscally sound manner, and that we're really growing it out in a way that meets the stakeholder's needs.

So, in closing, do we have the next steps slide? We're going to continue to go through the consultation process. We're going to continue to analyze the inputs from public notice and comments and RFIs, and we're going to continue to have the dialogue with all the potential users so that we can develop a really well thought out acquisition, a well thought out proposal so that industry will be able to deliver the information we need to properly execute state planning.

BARRY BONIFACE: Excellent. Anybody have any -- thank you, Rich and Michael. Anyone have any questions for Rich or Michael? Frank?

FRANK PLASTINA: Just a general comment. I just wanted to commend the FirstNet team, because of the fact that a lot of the responses that were given back were very -- what I would classify as tactical, which tells me you did a good job of at least defining what the really broad things were. In industry you'll get different definitions of RAN and core, and irrespective of who you talk to, everybody has a different definition, so I would like to commend the team for at least taking some of that broader debate off the table and quickly getting into a more tactical -- I'm not diminishing the amount of work you have to do. It's an enormous amount of work. But at least, I think, given the public notice and comment efforts and the RFI efforts, you're at a proper tactical level as you approach and tackle your next steps.

TJ KENNEDY: Thanks, Frank.

TJ KENNEDY: Great point, Frank, yeah. And I think that mirrors what you've noticed between the public notice in common and the RFI and the Statement of Objectives. You know, the three of those together, you know, as we kind of move forward, I think help answer some of those kind of key questions and really help get the focus going forward and how to go ahead and move out with the Statement of Objectives that people can bid on in the future, and it really helps us. The amount of responses we received from different groups not just industry, as a good example too, I think, shows the amount of interest in making sure we, as FirstNet, you know, get this right and are able to deliver for public safety.

BARRY BONIFACE: Great. Well I think it's time to adjourn this session. I would say everybody should look at their watch and note how efficient the Technology Committee is. We're running a little ahead of schedule, so we'll go ahead and adjourn the meeting, and the Uzoma is going to give us the roadmap from a timing perspective going forward. So can I have a motion to adjourn.

ED REYNOLDS: So moved.

FRANK PLASTINA: Second.

BARRY BONIFACE: All in favor, say aye?

ALL: Aye.

SUZANNE SAULDING: Aye.

BARRY BONIFACE: Any opposed? We are adjourned. Thank you, everybody, and Uzoma.

UZOMA ONYEIJE: So really quickly, I think, as probably everyone is aware, you know, when we do committee and board meetings, we publish the agenda on our website. So what's published is that we're going to begin again at 1:00 p.m. Mountain Standard Time. So we'll just take a break now, between now and 1:00, and we'll reconvene then, and we'll get started, then, with our Outreach Committee meeting. We're anticipating the Outreach Committee meeting will be about two hours, but maybe they'll be more efficient as well, and then we'll roll right into the Finance Committee meeting once that's completed. Thank you.