- 1 {York Stenographic Services, Inc.}
- 2 RPTS EDWARDS
- 3 HIF167.160
- 4 PROGRESS TOWARD A NATIONWIDE PUBLIC SAFETY BROADBAND NETWORK
- 5 TUESDAY, JUNE 16, 2015
- 6 House of Representatives,
- 7 Subcommittee on Communications and Technology
- 8 Committee on Energy and Commerce
- 9 Washington, D.C.

- The Subcommittee met, pursuant to call, at 2:15 p.m., in
- 11 Room 2322 of the Rayburn House Office Building, Hon. Greg
- 12 Walden [Chairman of the Subcommittee] presiding.
- 13 Members present: Representatives Walden, Latta, Shimkus,
- 14 Blackburn, Lance, Guthrie, Olson, Kinzinger, Bilirakis,
- 15 Johnson, Long, Ellmers, Collins, Cramer, Eshoo, Doyle, Welch,
- 16 Clarke, Loebsack, DeGette, Matsui, McNerney, Lujan, and

17 Pallone (ex officio). 18 Staff present: Ray Baum, Senior Policy Advisor for 19 Communications and Technology; Andy Duberstein, Deputy Press 20 Secretary; Gene Fullano, Detailee, Telecom; Kelsey Guyselman, 21 Counsel, Telecom; David Redl, Counsel, Telecom; Charlotte 22 Savercool, Legislative Clerk; Jeff Carroll, Democratic Staff 23 Director; David Goldman, Democratic Chief Counsel, 24 Communications and Technology; Ashley Jones, Democratic 25 Director of Communications, Member Services and Outreach; 26 Lori Maarbjerg, Democratic FCC Detailee; Margaret McCarthy, Democratic Senior Professional Staff Member; Tim Robinson, 27 28 Democratic Chief Counsel; and Ryan Skukowski, Democratic

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Policy Analyst.

30 Mr. {Walden.} I will call to order the Subcommittee on 31 Communications and Technology, and I apologize for the delay 32 in getting started. We had some votes, and a couple of 33 member things I had to deal with, so--but we are here now. 34 When we last convened to discuss FirstNet, my goal was 35 to leave that hearing with a higher level of comfort with 36 regard to FirstNet's progress and confidence in the way it 37 was conducting its business. As we all recognized then, and 38 continue to acknowledge today, FirstNet has before it an 39 undertaking which rivals the network deployments of our 40 largest national carriers. In fact, given its mandate to 41 build an interoperable wireless broadband service for all of 42 our nation's first responders, its task will take to all 43 corners of the United States. 44 Now, early shortcomings in FirstNet's approach to 45 consultation with states and other interested parties had 46 resulted in considerable uncertainty and concern among 47 stakeholders. Confused messaging, a perceived lack of transparency, and unanswered questions regarding FirstNet's 48 49 vision for the network, and even FirstNet's vision for itself

50 further complicated things. Questions like, how would 51 FirstNet provide service? Would it build a network, or 52 partner with commercial carriers? What is FirstNet going to 53 charge, and how does the opt-out work? Each contributed to 54 the concerns raised at the hearing, and answers were far from 55 forthcoming. Now, on top of all the policy concerns, 56 FirstNet was also under investigation by the Inspector 57 General of the Department of Commerce into alleged conflicts 58 of interest and contracting concerns when we gaveled in last 59 time. 60 Now, much has happened since then. There has been some 61 turnover in management, and--with the release of the IG's report in December of last year confirming much of what we 62 63 feared, that FirstNet had been operating without proper 64 processes in place, and without compliance with the laws that 65 guard against impropriety. It is my hope that the missteps 66 are now behind us, and I believe they are. But that is not 67 to say that there aren't additional challenges. 68 On April 28 the U.S. Government Accountability Office 69 released a report on FirstNet's progress in establishing the 70 network, concluding that while FirstNet has made progress

71 carrying out its responsibilities, weaknesses in FirstNet's 72 internal controls remain. For example, it remains unclear 73 how FirstNet is internalizing the lessons learned from the 74 Early Builder projects. Those are the five jurisdictions 75 that are already deployed -- or deploying public safety 76 broadband networks using FirstNet spectrum. And while the 77 GAO report recommends fixes, it is GAO's succinct statement 78 of what lies ahead that must inform our oversight. FirstNet 79 faces a multitude of risks, significant challenges, and 80 difficult decisions in meeting its statutory 81 responsibilities, including how to become a self-funding 82 entity. 83 To give FirstNet credit, it has made progress. witnessed FirstNet's information collections, and 84 85 consultation, and outreach activities accelerate through 86 2014. The feedback gathered has informed discussion on 87 deployment and brought productive debate among all 88 Today's hearing reflects the Subcommittee's stakeholders. 89 commitment to continued and thorough oversight of FirstNet.

We all share the goal of ensuring that our nation's first

responders realize the promise of truly interoperable state

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    of the art emergency communications networks envisioned by
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     the law. With those early missteps behind us today, we look
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    not only at the progress FirstNet has made, but also what new
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     challenges lie ahead, our goal being to leave with a higher
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     level of comfort in FirstNet's progress, and confidence in
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     the way it is conducting its business.
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         So I look forward to hearing from Mr. Kennedy, who can
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    provide an update on FirstNet's progress, put some of the
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    pieces together, and share with more specificity developments
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     in FirstNet's considerations and visions for the public
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     safety broadband network. I also would like to thank Mr.
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    Davis for appearing a second time before the Subcommittee to
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     share his experience as a state Chief Information Officer,
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     and his assessment what needs improvement, and where FirstNet
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    is headed.
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          [The prepared statement of Mr. Walden follows:]
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109 Mr. {Walden.} With that, I turn to the Vice Chair of 110 the Subcommittee, Mr. Latta, for any opening comments that he 111 may have. 112 Mr. {Latta.} Well, thank you very much, Mr. Chairman, 113 and again, thanks for holding today's hearing, and again, 114 thanks to our witnesses for being back with us today, I 115 really appreciate it, especially Mr. Davis, coming from Ohio. 116 And, pardon me, public safety and emergency communications 117 are critical to protecting the lives of Americans. That is why we must ensure that the implementation of FirstNet is 118 very successful. A reliable nationwide network is essential 119 120 for first responders to facilitate their communication needs 121 and support their everyday missions. 122 While I understand developing a nationwide interoperable 123 public safety network is a significant undertaking, it is 124 imperative that as properly--it is properly established to 125 meet the needs of all Americans, especially our first 126 responders. Furthermore, I am eager to see the future 127 developments, as consultations are underway to better 128 incorporate the states' input into planning and

Mr. {Walden.} I thank you for your comments and 134 135 leadership. Turn now to the Ranking Member, my friend from 136 California, Ms. Eshoo, for 5 minutes. Ms. {Eshoo.} Thank you, Mr. Chairman. Good afternoon, 137 138 everyone, and thank you to the witnesses for being here. 139 has been a year and a half since our Subcommittee last held a 140 FirstNet oversight hearing, and progress has been made. I 141 think that there are -- we have a lot of questions. Obviously, 142 since we haven't been together for a year and a half for--to do the oversight that needs to be done. But--and we look 143 forward to--I look forward to asking those questions, and I 144 145 am sure that my colleagues do as well. Now, in terms of progress, I think amongst the biggest 146 147 milestones include the release of a strategic road map, 148 ongoing collaboration with states, and most recently the 149 draft request for proposals intended to provide FirstNet with 150 extensive stakeholder input. And that is -- in my book, that 151 is one of the--that is really key. You have to talk to 152 customers. You are not in touch with customers, your company or endeavor is going to flop, in my view. 153

154 So, thanks to the success of the recently completed AWS-3 auction, FirstNet will soon have the funds it needs to 155 156 deliver on the first ever nationwide interoperable public 157 safety network. And I remind everyone that this was the one recommendation of the 9/11 Commission that the Congress had 158 159 not made good on, but we did for the American people. So a 160 lot rides on this effort. A lot rides on this effort, and we 161 got the money for you, and did the legislation. It became 162 law, and we want to make sure that this is not only done, but done very well, because it is a very big deal. It is a big 163 deal for our country. 164 165 Going forward, I think there are three key areas which FirstNet's leadership should give special consideration to. 166 First, I think it is critical that wireless carriers of all 167 168 sizes have an opportunity to partner with FirstNet, just be 169 an equal opportunity outfit, in my view. In particular, 170 regional and/or rural providers will have an important role 171 to play, both in building the network, as well as being able 172 to provide consumers with enhanced wireless broadband service when the network is not needed by emergency personnel. 173 174 Second, device competition is critical to the success of

175 FirstNet. \$5,000 public safety radios are out, o-u-t, so 176 there is--I don't even--I don't want to hear about them 177 anymore. As far as I am concerned, they don't exist, and I 178 don't think any of the dollars that are being provided should go to anything like that. That is yesterday. What is in? 179 180 Highly innovative broadband enabled devices that can transmit 181 live video from a robot sent to, for example, to assess a 182 suspicious package, view floor plans of a burning building, 183 access medical history of a patient in distress, as well as the wide range of other mobile applications. In other words, 184 you have to be just as 21st century as the rest of the -- of 185 186 this ecosystem is in our country. These devices have to be truly interoperable, and capable of withstanding the physical 187 challenges that first responders face very day. 188 189 And finally, I think that FirstNet should ensure its 190 core operations align with the standards and the technologies related to next generation 911. Congressman Shimkus has 191 192 been, you know, a great, great advocate, a coach here of the 193 e-911 caucus. We have been working on these issues for more 194 years than we want to count, and so there has to be alignment with that operation. The call centers around the country are 195

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    upgrading to NG-911, and they are becoming capable of
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    receiving photos, and videos, and text messages, so it only
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    makes sense that this information can be seamlessly
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    transmitted to first responders headed to an emergency
     situation. So the -- your operations have to be absolutely
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     aligned.
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          So as we work toward advancing the next generation of
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    public safety communications, I want to thank you for the
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     work that you have already done, for what you are going to
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     do, and for being here today to testify and give us a good
     deep dive on where things are, and how you see the future.
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     Thank you, and I yield back, Mr. Chairman.
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          [The prepared statement of Ms. Eshoo follows:]
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Mr. {Walden.} I thank the gentlelady, and would like to insert in the record a letter from the Rural Broadband Association, without objection.

[The information follows:]
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Mr. {Walden.} Turn now to the Vice Chair of the full 215 216 Committee, the gentlelady from Tennessee, Mrs. Blackburn. 217 Mrs. {Blackburn.} Thank you, Mr. Chairman, and I want to thank you all for being here to give us an update. As the 218 219 Chairman said in his comments, this is something we have 220 followed, will continue to follow, and do appropriate 221 oversight with you. We are so focused on your funding 222 mechanism, how you moved to self-funding after that initial 223 tranche of money is exhausted, and then how you are going to 224 see that business model developing. Also, the issue of interoperability, those of us that 225 226 have worked through the issues of some of our natural 227 disasters want to make certain that that is being addressed, 228 and that the stakeholders, with all of the first responders 229 across the country, are going to understand, participate, and 230 that we are going to realize this objective of having 231 something that is interoperable. 232 The other thing I want to touch on, and I will get to this in my questions a bit more, the aspects of a secure 233 234 network. We are realizing more and more the importance of

- 235 having a secure network, and, of course, we realize, closed systems, we are going to deal with those one way, enterprise 236 237 systems another way. When you look at something that meets 238 the interoperability component that you are going to have, 239 the security of the system is just so important to us. 240 We are living in an age where we face cyberattacks not 241 just on a monthly basis, a weekly basis, but an hourly basis. 242 So please talk with us about this issue of security. It is a 243 heightened concern for us as we move into the age of the 244 Internet of everything, and look at 50 billion devices being 245 attached by the time we get to the end of this decade. So 246 that secure wireless network that is the goal, we want to be 247 certain that indeed it is secure, and hear from you as much 248 as you can divulge to us that -- how you are achieving that. 249 With that, I will yield the balance of my time to anyone 250 who is seeking time. No takers? Time goes back--251 Mr. {Walden.} No takers? 252 Mrs. {Blackburn.} --to Mr. Chairman. I yield back. 253 [The prepared statement of Mrs. Blackburn follows:]
- 254 \*\*\*\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*\*\*\*\*

255 Mr. {Walden.} And the gentlelady yields back, and I am told the Ranking Member of the full Committee has asked Ms. 256 257 Matsui to take his time, so I now recognize the gentlelady 258 from California. 259 Ms. {Matsui.} Thank you, Mr. Chairman, for yielding Mr. Pallone's time to me. First of all, let me say FirstNet is a 260 261 startup, let us not forget that. Like every startup, it has 262 had its growing pains. For so long there were questions on how FirstNet would be funded, but now we know that it was 263 fully funded, and will be operational, due to this 264 265 Subcommittee's diligent work on AWS-3's record setting spectrum auction. Last year FirstNet laid out a road map, 266 267 and I am pleased that they are hitting their milestones so 268 far. 269 From the beginning I remained focused on the need for a 270 strong governance structure at FirstNet to responsibly govern 271 any nationwide public safety interoperability network. 272 Despite some initial concerns about the role of states taking a back seat, I am pleased that the FirstNet board took this 273 issue head on and developed a strong coordinated relationship 274

Mr. {Walden.} Gentlelady yields back the balance of her time. We go to our witnesses now, and start with Mr. T.J.

Kennedy, Acting Executive Director, First Responder Network Authority. We want to thank you for your leadership, and appreciate the progress that you have been making. And please go ahead with your comments.

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^STATEMENTS OF T.J. KENNEDY, ACTING EXECUTIVE DIRECTGOR,
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     FIRST RESPONDER NETWORK AUTHORITY; AND STU DAVIS, STATE CHIEF
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     INFORMATION OFFICER, ASSISTANT DIRECTOR, OHIO DEPARTMENT OF
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    ADMINISTRATIVE SERVICES
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     ^STATEMENT OF T.J. KENNEDY
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         Mr. {Kennedy.} Thank you, Chairman Walden, Ranking
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    Member Eshoo, members of the Subcommittee. I really
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    appreciate being here on behalf of the First Respondent
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    Network Authority. I welcome the opportunity to brief you on
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     FirstNet's progress, and the development of deploying an
     interoperable nationwide public safety broadband network. It
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     is also a pleasure to appear here today with the CIO of the
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     State of Ohio, Stu Davis. We just recently conducted the
    Ohio consultation last week in Ohio, and his team has been
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    very active not just in Ohio itself, but even within the
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     region, in setting a great example for our country in how to
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    make this network possible.
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          I would like to welcome several members of the public
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306 safety community who join us here today. This network is all 307 about them. When we put reliable, resilient broadband 308 technology in the hands of police officers, firefighters, 309 emergency medical services personnel across this country, we will enhance public safety like never before. We will create 310 311 new ways that first responders can save lives, and improve 312 first responders' own safety. As this Committee is aware, we 313 are experiencing growing pains in our early days of 314 existence, but we have worked very hard to shore up areas of 315 weakness, and to take on as much responsibility as we can. And I am very confident that today you will find our 316 317 processes and procedures in line with your expectations. 318 I am leading a dedicated team of professionals, who are 319 working tirelessly to achieve both the goals that you have 320 created for us, and the internal goals that we strive to 321 achieve every day. Each day we work on recruiting and 322 building the most talented team possible in order to make 323 this program successful. Under the direction of the Chairwoman of the Board, Mrs. Sue Swinson, we have 324 implemented a culture measured by results, while always 325 326 remembering who we are working for. The network that we will

327 deploy is public safety's network, and this is the key principle that guides our work each day. 328 329 The pace at which we are working is very high, and this leads to a demanding, but rewarding, work environment. 330 FirstNet resembles a startup, and we have a team that has 331 332 rolled up its sleeves, and is focused on consultation and/or 333 acquisition that will result in the successful deployment of 334 a nationwide public safety broadband network. Having a 335 wireless startup inside of government is a challenge that we are overcoming, and you are able to see the progress that we 336 have made. Since the release of our strategic road map in 337 338 March of 2014, we have been doing something unusual. We are 339 actually doing what we told you we would do. We released a 340 plan, and we are sticking to it, and we are meeting the goals 341 that we set out to achieve. Since we last testified before this Subcommittee in 342 343 November of '13, we have accomplished the following. We 344 released 13 RFIs, which examined numerous aspects of the 345 network. We published a statement of objectives with a comprehensive network RFI. This brought together all of the 346 347 information that we had received into a single document. We

348 conducted three public notices addressing various aspects of our enabling statute, and in April we released a special 349 350 notice with draft RFP documents. We have been consulting 351 with states and territories, and conducting an enormous amount of outreach to our stakeholders. 352 353 While we have taken great strides in the right 354 direction, significant work remains, and we at FirstNet are 355 committed to completing the mission that Congress has given 356 us. One area that I believe we have improved on is engaging 357 with our Public Safety Advisory Committee, known as the PSAC. A lot of the credit for this improvement must go to 358 359 Chairwoman Swinson and the PSAC Chairman, Chief Harlin McEwan. The PSAC is actively engaged in task teams that are 360 working on critical topics, such as priority and pre-emption, 361 public safety grade, and end user devices. The 40 members of 362 363 the PSAC are public safety's voice with FirstNet, and by 364 leveraging it, we will ensure that we integrate public safety 365 into the fabric of the network at every stage of planning and 366 deployment. Our consultation and outreach efforts have been 367 368 impressive, but more work remains to be done. We have held

369 consultations with 35 states to date, with a further 15 scheduled. In fact, Mr. Chairman, your home state of Oregon 370 371 was one of our early consultations, and we have seen an 372 impressive outreach in organizational structure in Oregon, and many other states. FirstNet is collaborating with states 373 374 in public safety to conduct outreach and consultation, and 375 are leveraging the state and local implementation grant 376 program that has helped fund these important efforts 377 throughout the country. 378 As we work towards the end of the year, and the planned 379 release of the comprehensive network RFP, the consultation 380 process continues to inform the composition of the RFP, and 381 so it is very important that states are involved at every stage in development of the network. States have many 382 383 avenues for consultation beyond our in person meetings and 384 regular conference calls. States can have significant 385 consultation feedback through the responses to our public 386 notices and our draft statement of objectives. I have 387 directed the organization to focus on these very two topics in 2015, consultation, and our acquisition of the network. 388 These are our top priorities to meet the requirements of the 389

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    Act.
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          FirstNet currently has a number of draft RFP documents
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     open for public comment, and we have been very encouraged by
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     the feedback that we received up to this point from both
     industry, from public safety, and from states. Mr. Chairman,
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     it is the mission, that of deploying a much needed nationwide
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    public safety broadband system that our first responders
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     deserve, that has me excited to come to work every morning.
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    This is not an easy task, but it is extremely rewarding to
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     the hard working team members of FirstNet, and we all
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    understand the critical importance to our country of getting
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     this right for public safety.
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          [The prepared statement of Mr. Kennedy follows:]
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404 Mr. {Walden.} Mr. Kennedy, thank you for your 405 leadership, and that of your team's, and the progress that you are making, and your forthright commitment to do what you 406 told us you would do. That is novel. We were just 407 suggesting bringing you back more often. 408 409 Now we go to Mr. Stu Davis -- we have got a few other 410 agencies we can assign you to, to--State Chief Information 411 Officer, Assistant Director, Ohio Department of 412 Administrative Services. Mr. Davis, we are delighted to have 413 you back before the Subcommittee. Please go ahead.

414 ^STATEMENT OF STU DAVIS 415 Mr. {Davis.} It is good to be here. Good afternoon, Chairman Walden, Ranking Member Eshoo, and members of the 416 417 Subcommittee. Thank you for the opportunity to testify on 418 FirstNet and the National Public Safety Broadband Network. 419 As State CIO, I also chair the Multi-Agency Radio 420 Communication System, or MARCS, and the Steering Committee, 421 Ohio's land mobile radio system that supports voice and data 422 communications for statewide public safety and emergency 423 response. And I also chair Ohio's next generation 911 424 steering committee as well. 425 I first testified before you in November 2013 and 426 expressed concerns that the Ohio General Assembly had about 427 FirstNet. It called for this Subcommittee to continue these 428 meetings, and we commend you for doing so. I also expressed 429 concerns relative to some key components that are necessary 430 for success. FirstNet has been--has made significant 431 progress in further defining and communicating the mitigation of these concerns. Regarding the state's relationship with 432

433 FirstNet, it is important that FirstNet views this as a partnership. FirstNet has come a long way in this regard, 434 435 and, over the past year and a half, many states have had the opportunity to meet with representatives from FirstNet and 436 discuss issues and concerns. FirstNet's message has been 437 438 clear. They are listening, reacting to our concerns. Ohio's 439 FirstNet consultation was held last week, and by all accounts 440 was a positive interaction. 441 From a planning and development perspective, states, including Ohio, have received planning grants to support 442 443 stakeholder outreach, governance, and data collection 444 activities in support of FirstNet. Ohio has been pursuing a 445 regional, or a multi-state approach. The FEMA region, five states of Michigan, Minnesota, Indiana, Illinois, Wisconsin, 446 447 and Ohio, have long been partners in the pursuit of obtaining the best possible public safety communication networks for 448 449 the region. Region five states met often on FirstNet, and we 450 have found the same issues emerge for all of us, local 451 control issues, leveraging existing systems, next generation 452 911 integration, and, of course, business models. 453 At our request, FirstNet participated in these meetings,

and provided additional communication, and a consistency in 454 their message regarding interactions with the state. 455 456 outreach efforts are appreciated. Region 5 has taken steps to identify assets that support emergency responder 457 communication to tower to other technical infrastructure. Of 458 459 course, there are necessary legal, financial, and 460 jurisdictional considerations when leveraging public 461 infrastructure. Due to the complexity of these 462 considerations, recent FirstNet discussions have been around foregoing leveraging state assets, which is understandable. 463 These considerations, multiplied by 50 states, will take an 464 465 enormous amount of time and effort. However, leveraging MARCS towers in Ohio could greatly assist in achieving NPSBN 466 467 coverage necessary. 468 There are some continued concerns. The FirstNet 469 business model is still somewhat undefined, and, based on 470 recent discussions at our state consultation, it will be 471 defined by the successful bidder through the RFP process. A 472 sustainable business model is critical to know and understand, and building the cost recovery and usage rates 473 will be instrumental in the adoption of this effort. The 474

475 FirstNet Chief Financial Officer recently discussed a potential user fee of \$30 a month, based on four to 13 476 477 million users. This sets an expected bar for fees, and is close to what some current service providers are charging, 478 but FirstNet should provide as good or better service at an 479 480 equal or lower cost. As Vice Chairman Latta knows, we have 481 MARCS users today that indicate that they cannot afford the 482 \$20 a month fee we charge. 483 Additionally, further clarity around user community access and secondary use is required. Utilities are asking 484 questions and making a strong case regarding priority access 485 486 and spectrum for the critical data systems they support. 487 Their inclusion as partners on the NPSBN could also provide sustainability for that future business model. 488 489 There continue to be concerns regarding coverage. 490 Recent discussions have focused on the urban areas, with a 491 phased approach to address rural and remote areas. Currently 492 Ohio's marked service coverage is 97.5 percent of the state. 493 We would expect at least the same from FirstNet in Ohio. 494 understand the reason for this current focus, but I am concerned in the long run the rural remote areas of the state 495

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    will be underrepresented. I will continue to press for a
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    FirstNet coverage plan and schedule that clearly extends to
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     these areas in Ohio.
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          It is important to note that we are supportive of
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    FirstNet and the Nationwide Public Safety broadband network.
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     Ohio is uniquely positioned to take advantage of the
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     significant opportunity to coordinate and converge multiple
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     efforts. These efforts include the upgrade to our LMRS,
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    MARCS, and Ohio's next generation 911 system. I look forward
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     to our continued partnership with FirstNet, and ensure
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     impacts to current initiatives are in alignment with Ohio's
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     direction. Thank you for your time, and I will respond to
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    any questions.
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          [The prepared statement of Mr. Davis follows:]
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Mr. {Walden.} Mr. Davis, thank you for your testimony,
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     and that of Mr. Kennedy's as well.
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          So, Mr. Kennedy, it appears there may be some
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     conflicting information regarding the release of the final
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    RFP, and I just would love to get some clarification. I
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    understand FirstNet Chair Swinson estimated early 2016 when
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     she testified before the Senate. Is that a pretty good
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     estimate, early 2016?
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          Mr. {Kennedy.} It is. I mean, we are shooting for the
     end of this year, but early 2016 is a very accurate estimate.
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          Mr. {Walden.} All right. You state in your testimony
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     that FirstNet has received more than 670 questions to the
     draft RFP you just released, and the comment period doesn't
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     close until July 27. Sounds like a lot of stakeholders have
     a lot of questions. Given that level of inquiry, do you
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     think you will be able to hold on to the early 2016 release
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    of the RFP?
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          Mr. {Kennedy.} Currently we are still holding on to
     that date, and we have been responding to the questions that
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    have been coming in. We actually released the first
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531 responses last week, and we are going to continue to respond 532 to the questions on an ongoing basis so that those questions 533 can be acted upon by the teams, and the states, and the public safety stakeholders, who have been submitting 534 535 questions. 536 One of the things that we have done with the draft RFP 537 is we have asked for feedback, and so both the questions and 538 the responses that we hope to get by July 27, we are 539 expecting a lot of interaction not just from vendors in industry, but also from states, and so we are excited to see 540 541 the feedback that we are getting. 542 Mr. {Walden.} And I assume that has been a pretty helpful process? 543 544 Mr. {Kennedy.} It has. Mr. {Walden.} All right. What do you see as--I was 545 546 just reading through this document that we entered in the 547 record for the Rural Broadband Association, and some of their 548 concerns about special issues, the rural areas, and being 549 able to be a partner, and maybe partnering, or, conversely, 550 if you end up commercializing some of the surplus spectrum, 551 the effect that might have on the marketplace. Are those the

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     sort of issues you are going to be addressing?
          Mr. {Kennedy.} We are, and we have asked for, in the
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     draft RFP documents, ways to address not just the urban and
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     suburban areas, but rural areas, as we look at rollout. One
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     of the things with the capacity on the network, certainly
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     there will be more excess capacity in the more rural areas.
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         Mr. {Walden.} Right.
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          Mr. {Kennedy.} We have also been working with groups
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     like the Rural Broadband Association, and many others, to go
     out and reach out to the rural carriers and rural telecom
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    providers and make sure that they are getting involved. We
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    have been encouraging them to respond--
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          Mr. {Walden.} Good.
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          Mr. {Kennedy.} --to the draft RFP--
          Mr. {Walden.} Good.
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          Mr. {Kennedy.} --and respond with solutions. And
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     whether that is individually, or that is as teams, or working
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     together in regions or different parts of the country, we are
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     absolutely encouraging them to participate.
          Mr. {Walden.} Because it just seems to me the more you
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     can minimize overbuild, or prevent it altogether, the better,
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573 because you have got to leverage the money that you have in 574 the most effective way. So what are the next steps once the 575 final RFP is released? 576 Mr. {Kennedy.} Once the RFP is released, there will be certainly questions to come in on the final RFP. We will 577 578 respond to those. We expect proposals to be returned after 579 that. There is an evaluation period of those different 580 proposals, and the ranking and rating that would normally 581 happen with an--582 Mr. {Walden.} Um-hum. Mr. {Kennedy.} --evaluation, and then any kind of 583 584 orals, or other parts that could take part of the evaluation 585 process. These do take some time. As you know, with large Federal procurements, we expect that this will take a 586 significant amount of 2016 to occur, but we want to move with 587 588 as much urgency for public safety as we can because we know they need this network, and we want to move into deployment. 589 590 Mr. {Walden.} Our antennae always go up when we hear 591 the IG is looking at an organization. I understand, while they are done with their first audit, they are back looking 592 at some of the Federal issues. Can you elaborate a little 593

594 bit about what they are looking at? 595 Mr. {Kennedy.} Sure. The most recent request was to 596 take a look at Federal outreach. Nothing out of the 597 ordinary. We have been working closely with any requests that come from either the IG, or the Government 598 599 Accountability Office, and we have been definitely following 600 up with them. And we expected this to be a normal, routine 601 cause of business as we go through deploying this network. 602 Mr. {Walden.} And how soon before we would see some form of deployment of the network after you get through the 603 RFP and all? 604 605 Mr. {Kennedy.} We would expect that, once the RFP is awarded, that we will move into that first phase of 606 deployment. We currently have about 5 years of deployment 607 608 that is in the plan, the way the draft RFP is scripted today, 609 so we are expecting about a 5 year build out, post award of the contract for the initial build out. 610 611 Mr. {Walden.} All right, see if I have anything else. 612 Yeah, in your testimony you speak of a vision of developing a recapitalization model that will lead to the deployment of a 613 fully self-sustained network. Could you describe this model, 614

615 and what it means from the perspective public safety user states, and states that opt out of the network? 616 617 Mr. {Kennedy.} Sure. The recapitalize model, from an opt-in and an opt-out perspective, is trying to make sure 618 619 that the nationwide network, the core network itself, and the 620 overall network will not be like a lot of past public safety 621 projects, where we invest a large amount of government grants 622 and other funding into a system that cannot be maintained or 623 upgraded--Mr. {Walden.} Um-hum. 624 Mr. {Kennedy.} --into the future. As all of you know, 625 626 you are currently using phones that are leveraging 3G 627 technology, leveraging 4G and LTE, and we are going to be leveraging advanced LTE, 5G, 6G, into the future. And so as 628 we build this network, the goal is to make sure that we plan 629 630 those costs, and that recapitalization, into the network 631 cost, whether that is core fees related to an opt-out state, 632 or whether that is actual user fees, and the covered leasing agreements related to opt-in states, and making sure that we 633 have the ability to maintain and upgrade the network. 634 Mr. {Walden.} All right. My time has expired. Thank 635

- 636 you again for your testimony, and the answers to my
- 637 questions. Turn now to the gentlelady from California, Ms.
- 638 Eshoo.
- Ms. {Eshoo.} Thank you, Mr. Chairman. Before I begin
- 640 my questions, I would just like to acknowledge the uniformed
- 641 first responders that are in the audience with us here today.
- 642 We salute you, we thank you for your service, and I will
- 643 never forget how you were really the backbone of the effort
- 644 moving the legislation through, so thank you for being here,
- 645 and for everything that you do for our whole country. Thank
- 646 you.
- Mr. Kennedy, circling back to the GAO, what prompted the
- 648 review? Is this something that is--
- Mr. {Walden.} You mean the IG's--
- Ms. {Eshoo.} The IG review, yeah.
- Mr. {Kennedy.} We are not aware of anything in
- 652 particular that prompted the review itself. We believe it is
- 653 a routine course of business--
- Ms. {Eshoo.} It is a routine--um-hum.
- Mr. {Kennedy.} --and this was the next area that they
- 656 wanted to audit, which was Federal outreach.

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Ms. {Eshoo.} Good. Okay. Well, we will have to make--
657
     avail ourselves to the report, and become familiar with it.
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659
     We have had enormous struggles with interoperability in the
     radio space, and I want to make sure that the same thing
660
     doesn't happen again between FirstNet and NG-911. So can you
661
662
     tell us what FirstNet is doing to ensure that we don't have a
663
     standards mismatch between the LTE network built by FirstNet
664
     and our NG-911 systems built by states and localities?
665
          Mr. {Kennedy.} Our statute clearly calls out and
     requires us to promote integration of the network--
666
667
          Ms. {Eshoo.} It does. Uh-huh, yes, the law does.
     Um-hum.
668
          Mr. {Kennedy.} -- and we have absolutely built that into
669
     our draft RFP documents. We have leveraged it in our
670
     outreach, and we have worked very closely with the 911
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672
     community.
673
          Ms. {Eshoo.} Good.
674
          Mr. {Kennedy.} Today in the audience some of the team
675
     from APCO was here. APCO has been very much a supporter of
     FirstNet in making sure that we maintain this integration
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     focus that needs to occur between next gen 911--
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678
          Ms. {Eshoo.} Um-hum.
         Mr. {Kennedy.} -- and existing 911 and public safety
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     answering point services. We are also bringing on a 911
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     subject matter expert onto the FirstNet team to make sure
     that we are very focused in reaching out to all of the
682
683
     dispatch centers, and all of the communicators across the
684
     country, so that their needs are included. And they are
685
     often at our consultations and our different discussions as
686
    we go across the country. So we believe that we are working
    very closely with the 911 community, and that that
687
     integration will occur.
688
689
          Ms. {Eshoo.} Good. That is excellent. Mr. Davis,
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     thank you for the work that you are doing. You gave guite an
691
     extensive report in your testimony. Thank you very much. I
692
    mean, it represents a ton of work, as my kids would say.
     How, in your view, do you think the whole issue of
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694
     interoperability between FirstNet, the states, the NG-911
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     systems, is working?
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          Mr. {Davis.} I think it is too early to tell, from a
     State perspective. Right now we are working through the
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     technical requirements on how we would do that from a state
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     perspective. Historically, that has come from local
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     government, and we are trying to put guidance out to local
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     government to make sure that they are following the standards
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     and the--
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          Ms. {Eshoo.} Um-hum.
704
          Mr. {Davis.} --approach that we would take. I am
705
     excited to hear you have a 911 expert on your team, because I
706
     am sure we will be reaching out and trying to leverage the
707
     technology and the standards that you guys will be
708
     implementing.
709
          Ms. {Eshoo.} Um-hum. Beyond what you just shared, do
     you think that the atmospherics have become -- I don't know
710
711
     what other word to use. I mean, there were tensions in the
712
     beginning, and the -- on the part of some, a reluctance to be a
713
     part of this effort. Can you tell us anything about how that
     has improved, in your view? Do you think that it has?
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715
          Mr. {Davis.} Significantly improved.
716
          Ms. {Eshoo.} Good.
717
          Mr. {Davis.} I think--
          Ms. {Eshoo.} That is wonderful.
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719
          Mr. {Davis.} --in the last year--
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          Ms. {Eshoo.} That is so important.
721
          Mr. {Davis.} -- and a half, in terms of the outreach,
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     the collaboration, the communication, these 35 states--I
723
     mean, that says a lot, when you are going out and talking to
724
     the states.
725
          Ms. {Eshoo.} Um-hum.
726
          Mr. {Davis.} And we do get together from--regional
727
     perspective. We get together from--even a national
728
     perspective, and we talk. And so that -- and you know that,
729
     right? So the consistency of the message is very concerning
     for us to hear that, you know, somebody said something in a
730
731
     different state. And that message is clear. It--the
732
     collaboration, I think, is there. The integration and the
733
     communication has been consistent, and I think things are
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     moving in the appropriate direction.
          Ms. {Eshoo.} And is there a comfort level to advise the
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736
     Board as to how--if there are ways to improve that, do you
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     feel comfortable saying so, or others?
738
          Mr. {Davis.} I think there is always room for more
739
     communication--
740
          Ms. {Eshoo.} Um-hum.
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741 Mr. {Davis.} -- and transparency. I think it will be interesting to see the responses that come back from the RFI-742 743 744 Ms. {Eshoo.} Um-hm. 745 Mr. {Davis.} --and the sharing of the information, and 746 the--747 Ms. {Eshoo.} Um-hum. 748 Mr. {Davis.} --comments that come back from that. I 749 think that will be a significant assistance and help. 750 Ms. {Eshoo.} Great. Thank you very much. Yield back, Mr. Chairman. 751 752 Mr. {Walden.} The gentlelady yields back. The Chair recognizes the Vice Chair of the Subcommittee, Mr. Latta, for 753 754 5 minutes. 755 Mr. {Latta.} Well, thank you, Mr. Chairman. And again, 756 Mr. Kennedy, Mr. Davis, thanks again for being here today with us. We really appreciate it, for the update. And, Mr. 757 Davis, I could ask you, I noted in your testimony that you 758 759 advocate a regional approach to planning and development, 760 capitalizing in part on the partnership between the states in 761 FEMA regions, and the history of that kind of collective work

762 with regard to the land mobile radio communications. Would you be able to expand on that for us, please? 763 764 Mr. {Davis.} Sure. There is a long history of 765 communication between the states in the FEMA five region. They all have land mobile radio systems that we share and 766 767 share alike, and lessons that were learned in Minnesota are 768 things that we, you know, don't have to break our teeth on, 769 if you will, in another state, in Ohio, for example. 770 So that communication came out, and it was really more 771 about making sure that we could be heard through the process. In the early days, in 2013, there were concerns that, as a 772 773 state, our voice might be minimized, and we felt it as-774 moving into a regional approach like that, we could not be 775 dismissed, when you start to talk about the population that 776 is served, the towers and the infrastructure that is there, 777 and the way that those land mobile radio systems are working today. So there have been very, very strong communication 778 779 between all of those coordinators in those states. 780 Mr. {Latta.} Just not between the states, do you think 781 FirstNet's doing enough to take advantage of that regional approach, then, that you have already been working on? 782

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          Mr. {Davis.} I think it is starting to take some root,
     if you will. I think originally there were some--
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          Mr. {Latta.} Yeah. Would you want to elaborate on
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     that?
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          Mr. {Davis.} I think originally--I think FirstNet was a
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     little concerned, and this is my own perspective, I probably
789
     shouldn't say that, but I will. And then I think, as they
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    began to see the opportunity, that that really brought it to
791
     the table, and we had FirstNet come to one of those region
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     five meetings. And it is a great opportunity for us to hear
     the same things, and to get everything out on the table, and
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794
    have that constructive debate on how this thing is going to
795
     come together. And so I think that regional approach has
796
    been helpful, and I think--I would hope that T.J. would say
797
     the same thing.
          Mr. {Latta.} Would you like to comment, Mr. Kennedy?
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          Mr. {Kennedy.} Sure. As somebody who did go out to
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     that region five meeting, and I brought with me my Director
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     of Consultation, as well as Director of State Plans, the
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     interaction was terrific. It was a nice snowy day in
803
     Chicago. We got together with all the states in region five.
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804 And I think what was very beneficial was the pros and cons 805 from different states, with different geographies, and 806 different issues, and common problems and issues as well. 807 And I think it made for a great dialogue and discussion. We have also been staffing up our consultation and 808 809 outreach teams by region now, and we actually are leveraging 810 the FirstNet regions, which are the same as the FEMA region. 811 So we are leveraging that kind of regional cooperation, much 812 like region five set as a good example. So we are taking 813 that example and leveraging it in other parts of the country. 814 We also did something this year that I think is even 815 taking that to the next step, in that we held a nationwide 816 single point of contact meeting. So--both Stu Davis, and all of the other single points of contacts from all the 50 817 states, and the territories, and the District of Columbia we 818 819 invited to a nationwide -- meeting where we all came together. 820 Over--I think 52 of the states actually brought different 821 team members to that meeting, and we were able to share the 822 differences in the issues, and talk very openly in 2 full days of discussion. 823 824 I think you could kind of rate the discussion by--at 5

o'clock on the second day, everyone was still in the room,

825

having a very fruitful discussion. We had breakout sessions 826 827 where we could dive deep into elements around the RFP, or the 828 public notices. And that kind of dialogue has been extremely 829 helpful, I think, both for FirstNet, but also for the states, 830 and I think that we both gained from it. 831 Mr. {Latta.} Let me ask Mr. Davis, if I could, just on 832 a follow up, if you are going to look into the crystal ball 833 and look into the future, where do we need to be with the states and FirstNet right now? You know, the -- in the -- where 834 do we want to be in the next year? What do we need to be 835 836 doing? What else? 837 Mr. {Davis.} Well, I think right now, I think, with all 838 the planning that is going on from each individual state, and 839 that coalescing of all that information across the -- at least 840 the FEMA five regions, I think that is really on us to sort 841 of get some of that together and make sure that we are 842 getting it to FirstNet. 843 I think that the next steps are really the schedule, and how this thing comes out, and how it gets rolled out at some 844 845 point in time. Because, again, like I said, I am concerned

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     about the rural and remote areas of the state, to make sure
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     that we have the appropriate coverages. I certainly
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     understand the logic behind the approach that they are
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     taking, but some of this can be done on parallel. We just
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     need to make sure we are doing it.
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          Mr. {Latta.} If I could just touch real briefly, and my
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     time is about it, because -- especially when you are talking
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     about the rural parts of the state, because, you know, when I
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     look at my district, you know, in northwest/west-central
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     Ohio, I go from urban, suburban, to very, very, very rural
     areas. And especially when I am out talking to my first
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857
     responders out in the rural areas, there is always that
858
     question about coverage. And when you have talked to folks
     in, you know, the rural parts of Ohio, I don't care if it is
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860
     in the northwest, or the southwest, or northeast, or
861
     southwest, what are they telling you right now?
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          Mr. {Davis.} Well, they are all interested to know what
863
     kind of coverage they are going to have to--
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          Mr. {Latta.} Right, and--but do they think that they
     will get that coverage?
865
866
         Mr. {Davis.} I think that they do assume that is--
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- 867 I think the original message that was coming out of FirstNet
- 868 in the very early days was consistent coverage across the
- 869 entire country. And, you know, my--obviously our fervent
- 870 hope is that that actually happens. But the question is the
- 871 timing for those rural and remote areas is going to be
- 872 critical, because--and that goes back to the business model
- 873 as well, because how much are you willing to spend for what
- 874 you are going to get form that out of the gate.
- Mr. {Latta.} Well, thank you very much. Mr. Chairman,
- 876 my time has expired, and I yield back.
- Mr. {Walden.} The gentleman yields back. The Chair
- 878 recognizes the Ranking Member of the full Committee, Mr.
- 879 Pallone, for 5 minutes.
- Mr. {Pallone.} Thank you, Mr. Chairman. I wanted to
- 881 ask Mr. Kennedy first about Jersey Net, and then I wanted to
- 882 ask a question about tribal lands, so I am trying to get this
- 883 all in.
- 884 Nearly 3 years ago Hurricane Sandy devastated New
- 885 Jersey. The natural disaster was compounded by communication
- 886 failures across the state, and that is why I have been such a
- 887 supporter of making New Jersey's one of FirstNet's early

888 builder projects. I know that early on, however, critics pointed to the struggles Governor Christie had getting this 889 890 project off the ground as an example of why FirstNet couldn't 891 work, and I believe that we have been able to turn this 892 project around since then. 893 I had hoped to ask one of the architects of the success 894 in New Jersey about how he did it, because I thought his 895 experience would help make other jurisdictions successful, 896 but, unfortunately, the governor prevented him from being 897 here today, so I have to ask you, Mr. Kennedy, what do you 898 think of the progress Jersey Net has made, and can you 899 elaborate on the lessons that FirstNet hopes to learn from 900 New Jersey's early deployment of its public safety broadband 901 network? 902 Mr. {Kennedy.} New Jersey and Jersey Net are currently 903 deploying and testing their first sites this week, so the program is making terrific progress, and Fred Scalera, and 904 the team in New Jersey, are very eager to get this project 905 906 completed by September of this year. They are on track to do 907 that. They have been working very closely with the FirstNet team as well, and sharing lessons learned as they move 908

909 forward. 910 The project is helping drive a strong ecosystem to 911 lessons learned across devices, looking at early devices, and 912 ways to leverage the network, and also looking at ways to use deployables so that in events like Hurricane Sandy in the 913 914 future, those deployables could be moved into an area that 915 has been affected by a natural disaster or other event, and 916 actually really leverage both capacity and coverage needs 917 that may change due to those kinds of planned and unplanned 918 events that occur. So I do believe that the Jersey Net system is a great 919 platform for FirstNet to learn from. I do think the team is 920 921 on track to complete the project by September of this year, and that we will be getting lessons of an operational flavor 922 923 as early as fall of this year, and we look forward today. 924 Mr. {Pallone.} All right. FirstNet was created to be 925 part of NTIA, which is part of the Department of Commerce. 926 It seems to me, though, that you might be able to deploy the 927 network faster if FirstNet was spun out of the agency. So do you think FirstNet has reached the point where it can stand 928 on its own as an independent corporation, and if we are not 929

930 there yet, what needs to happen first? 931 Mr. {Kennedy.} I think FirstNet has grown a lot from 932 the early days. I believe that, when we started, we relied 933 very heavily on NTIA and the Department of Commerce for a lot of key functions. As we have been able to build up our 934 935 staff, we have been able to take on some of those key 936 corporate and governance functions of the organization. We 937 have moved things like finance entirely into the FirstNet 938 organization, and now we are looking at key elements, like 939 human resources, and procurement, and how that can be taken 940 on by FirstNet in the future. 941 So I do believe that we are maturing, and I do think 942 that that kind of responsibility and accountability for 943 FirstNet is something that we are growing into, very much so. 944 Mr. {Pallone.} Okay. I want to ask you about tribal 945 lands. I try to bring up American Indian issues when I can. 946 Nowhere is our nation's digital divide more apparent than on 947 tribal lands. The lack of communications on tribal lands has 948 not just had an economic impact, it is also led to real 949 difficulties with public safety communications. And I think one of the overlooked virtues is this potential importance to 950

- 951 improve deployment of broadband infrastructure to tribal 952 lands. 953 So how is FirstNet coordinating with tribal public 954 safety entities, and how will FirstNet address areas like tribal lands, which may have very little existing 955 communications infrastructure? 956 957 Mr. {Kennedy.} FirstNet understands the special 958 importance of reaching out to the tribal communities, many of 959 which have an acute need for broadband deployment. We have a 960 tribal outreach lead that is full time on FirstNet, and does nothing but interact on a regular basis with the public 961 962 safety community on different tribal lands, as well as the 963 telecommunications, and different elements of communications on the tribal lands, and what they can do to help as FirstNet 964 965 deploys. We have actually created a tribal working group on 966 the Public Safety Advisory Committee. I personally have 967 spent time meeting with them all day, talking about the 968 issues that are different in tribal communities that need to 969 be supported by FirstNet as we develop the network and deploy 970 the network.
- I see a lot of desire for FirstNet to succeed on--with

972 supporting tribal public safety. They have been very eager to work with us and help us understand their needs and 973 974 desires. And I do think that our recent consultations in 975 states like New Mexico, just recently last week, and we are looking at specific tribal needs as we go through state by 976 977 state consultations, really is a great opportunity for us to 978 make sure that we get it right. 979 Mr. {Pallone.} All right. Thanks a lot. Thank you, 980 Mr. Chairman. 981 Mr. {Walden.} The gentleman yields back. The Chair 982 recognizes the other gentleman from New Jersey, Mr. Lance, 983 for 5 minutes. 984 Mr. {Lance.} Thank you, Mr. Chairman, and good afternoon to the panel. New Jersey's project is notable for 985 986 its use of deployable long term evolution communications 987 technology for its first responder network, called Jersey 988 Net. This mobile network system can be incorporated on 989 towable trailers, SUVs, vans, and other platforms to be 990 deployed quickly in emergency situations or natural 991 disasters, like Hurricane Sandy, or to places where 992 communications are limited or non-existent. It is my

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993
     understanding that rural areas, which comprise about 90
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     percent of the country, in geography, are particularly
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     vulnerable, since there is no built-out fixed infrastructure.
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           In this regard, and I go to you, Mr. Kennedy, could you
     provide quidance on how you plan to incorporate deployables
997
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      into your build out plans?
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          Mr. {Kennedy.} We have been looking at deployables not
1000
      just for rural deployments, where it may not be cost-
1001
     effective to have terrestrial elements, we want to have as
1002
     much terrestrial in rural areas as well, but also from the
1003
     capacity and the reconstitution of a network. There are
1004
      special events that occur, large gatherings, you, you know,
1005
      Super Bowls, large sporting events, other things that would
1006
      require an additional capacity in certain areas where
1007
     deployables can be effectively--
1008
           Mr. {Lance.} All Super Bowls should be in New Jersey,
1009
     Mr. Kennedy.
1010
          Mr. {Kennedy.} Absolutely. The--
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          Mr. {Lance.} It is on the record.
1012
           Mr. {Kennedy.} The temperature of Super Bowls in New
1013
     Jersey in that time of year can be a little cold at some
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     times--
1015
          Mr. {Lance.} No.
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           Mr. {Kennedy.} --just wanted to throw that out.
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     need for reconstituting a network after a natural disaster,
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      though, is an excellent opportunity for deployables, where we
1019
     can have deployables that are moved out of the way of a
1020
     particular disaster, if we have warning, and can move them
1021
     back in to make sure that public safety can communicate
1022
      immediately after a major event. It also is supportive of
1023
      terrorist events, or other events that may take out existing
1024
      infrastructure, critical infrastructure.
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           Lastly, there are many parts, as you mentioned, of the
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     United States that are very rural, and it may make more sense
1027
     to have deployable assets leveraging satellite backhaul, and
1028
     other elements, to get to parts of the United States that are
1029
     very difficult to get to. When I was a first responder, I
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     was a police officer and a firefighter in very rural parts of
1031
     Utah. I went to places that were not covered by cellular
1032
     networks or land mobile radio networks, in many cases. So,
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     having that ability to get communications much deeper into
     our rural communities for public safety is absolutely
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1035 critical. 1036 Mr. {Lance.} Thank you. And, on another topic, 1037 FirstNet has sought comments on the definition of public 1038 safety entity on two occasions, and, as I understand it, 1039 based on press reports, there seems to be some debate among stakeholders. Mr. Kennedy, could you describe this debate, 1040 1041 and the implications of the definition of that term for 1042 FirstNet's deployment? 1043 Mr. {Kennedy.} We have actually had a terrific, I 1044 think, conversation with both public safety, the states, and 1045 industry on the definition of public safety entity. It was in both our first public notice, and our follow-up third 1046 1047 public notice. We saw overwhelming support from the states. 1048 Many states, including Ohio, mentioned the elements related 1049 to leveraging a broad user base to support the network that 1050 public safety needs to have access to. But, most 1051 importantly, that user base is somebody that needs to be 1052 contacted by the incident commander during big incidents. 1053 And if we look at emergencies that occur, everyone 1054 understands that police, fire, and emergency medical services 1055 are part of our everyday public safety response. But also

1056 there are others, whether it is a utility worker, or whether 1057 it is to access some key transportation support on a major 1058 accident scene on an interstate highway. You may have other 1059 users that are in contact with public safety every day, 1060 supporting public safety operations, and, most importantly, needing to be prioritized by an incident commander to be 1061 1062 spoken to during those large emergencies, when networks get congested. 1063 1064 And so we have tried to be very clear on making sure 1065 that we get input from states on who should be on the 1066 network, and we have received a lot of input on that issue. We have not issued our final recommendation for the outer 1067 1068 quardrails of that public safety entity definition, but I 1069 think with the tremendous amount of input that we have 1070 received, it has helped us build a broad definition that will cover what needs to occur, and also be prudent in acting with 1071 1072 the Act. 1073 Mr. {Lance.} In the press there has been some 1074 discussion as to the difference between six million to 13 1075 million users, estimates. Could you give your best advice to 1076 the Committee on that?

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          Mr. {Kennedy.} Sure. In general, our market research
1078
     has shown that there are about four million public safety
      traditional users that would want to engage on the network,
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      if they were given that opportunity, and so we look at that
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     as an addressable market. It is about four million police,
1082
      fire, and emergency medical services personnel. The nine
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     million, or up to 13 million, number comes from those other
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      types of users we just described, so Department of
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     Transportation officials that may be supporting that. They
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     may be buses or transportation that moves folks during an
1087
     evacuation. That is commonly needed when you have a
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     hurricane coming into an area, or you are evacuating a
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     hospital, or a nursing home, or other large facilities that
1090
      you might need to evacuate during an actual emergency.
1091
     Having that kind of broader public safety first responder
1092
      community that can support that is important, and so that is
     where that other nine million comes from.
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1094
          Mr. {Lance.} Thank you. My time is done. Thank you,
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     Mr. Chairman.
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          Mr. {Walden.} Thank you, Mr. Lance. We turn now to the
      gentlelady from New York, Ms. Clarke. Do you have any
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1098 questions? 1099 Ms. {Clarke.} Well, I do--I am curious--Mr. Kennedy, 1100 Mr. Davis, thank you for testifying here today. Coming out 1101 of the New York experience in 9/11, and understanding that 1102 there have been a host of iterations of I guess ways of 1103 becoming interoperable, I want to know whether we are looking 1104 at how we maximize on the infrastructures that have already--1105 that are already in existence, whether FirstNet will be an 1106 underlay of those systems, or are we talking about 1107 essentially putting those systems aside, and deploying 1108 FirstNet as the main vein, if you will, of communications not 1109 only in the New York region, but I guess across the nation. 1110 And I say that because I look at the major investments 1111 that have been made in a city like New York. A whole new 911 1112 infrastructure has been put in place. There are a lot of taxpayer dollars there. Is there a way that you have looked 1113 1114 at the assets of various regions around the nation and looked 1115 at what could be amenable to the new deployment from a 1116 broadband perspective, or whether you see those being phased 1117 out, basically, over time so that this becomes sort of the primary tool for communication and coordination? 1118

1119 Mr. {Kennedy.} So to your 911 public safety answering 1120 point--question specifically, I absolutely believe that the integration both with the existing public safety answering 1121 1122 points, and those that are upgrading to next gen 911, is a 1123 key part of what we are doing, and that integration will 1124 leverage those investments that have already been made. 1125 When it comes to using voice capability with land mobile 1126 radio, and using voice, video, and data related to LTE and 1127 broadband technology, I believe they are complimentary, and I 1128 believe that the land mobile radio systems that agencies have 1129 today should be -- continue to be maintained, and those systems 1130 are very valuable to public safety. It is what I have used 1131 in my career. It is a very valuable tool to public safety. 1132 I do think that broadband will bring a richness of 1133 applications, and the ability to have not just interoperable 1134 voice communications, but interoperable data communications. 1135 I am able to share more information across police, fire, and 1136 emergency medical services. 1137 So I believe that they are complimentary to each other, 1138 and that the richness that you can get in a broadband environment will add to saving lives in different ways than 1139

1140 we do today by being able to share video, and sharing data 1141 much quicker, and in ways that, in some cases, we haven't 1142 even thought of the amazing applications that will be 1143 supporting our police officers, our firefighters, and our 1144 paramedics. 1145 Ms. {Clarke.} That was a good answer. My next question 1146 to you is, for those parts of the country where you have sort 1147 of a voluntary first responder infrastructure, have you 1148 thought about how the usage of FirstNet will be communicated, 1149 and are they already integrated into I guess networks of 1150 conversation around the deployment of FirstNet, and how they 1151 will interact with it? Because, of course, their--primarily 1152 stand up their operations on a volunteer basis, and--but they 1153 play a very crucial role in responding in remote areas, where 1154 there isn't necessarily a municipality that does so. Could 1155 you give us some insights into that as well? And any 1156 feedback you may have gotten from those communities. Mr. {Kennedy.} Volunteers are absolutely critical in 1157 1158 public safety. You can go to almost any state in this 1159 country, and volunteers are a backbone of what occurs in 1160 public safety. There are volunteer firefighters and EMTs

1161 across this country who serve big communities and small 1162 communities. There are communities in New York that are 1163 quite large that are served by volunteers every single day, 1164 and so they are a part of this network. They are a key 1165 component that are going to leverage this network. When we 1166 go out and do consultations, we are consulting with paid 1167 professional services, we are consulting with volunteer 1168 professional services, and we are making sure that they are 1169 at the table, and invited, and part of those conversations. 1170 One of the biggest things we hear is they want to make 1171 sure that they are able to buy service, and we have made sure 1172 in our definitions that volunteers are clearly called out as 1173 being able to buy service, and be a part of that. And so we 1174 think they are a critical component, and will greatly benefit 1175 from having costed--affordable devices that they can get 1176 their hands on, not just for voice communications, but also 1177 for applications and other uses as well. 1178 Ms. {Clarke.} And in the protocols that are I guess 1179 being established, is there a component of that that looks at 1180 the security of the system, and how is that being baked in, and also how are you containing sort of access to that? You-1181

1182 -everyone in the nation is just concerned about cyber, and I 1183 just wanted to get your feedback. 1184 Mr. {Kennedy.} Cyber is an absolutely critical element 1185 for us in--at FirstNet, and--with public safety. And we are 1186 trying to, and we have the unique opportunity, as we develop 1187 a network that is going to be deployed, that we can start 1188 from the beginning and bake in security from day one. We 1189 brought on a security architect, who is now part of our team, 1190 who is focused on this. He has been leveraging the 1191 Department of Homeland Security and other key agencies that 1192 have a number of cyber efforts that are already underway. 1193 We are not reinventing the wheel. We are leveraging a 1194 lot of the best practices that are in place, both in the 1195 private sector and in government today. But we want to make 1196 sure that the unique environment of a number of networks that 1197 have typically been stove-piped are separate, that when you 1198 bring them together it is going to be absolutely critical 1199 that, when we have all these different agencies that are leveraging this network, that -- not just cyber security, but 1200 1201 also identity and access management will be a critical component of what we do. And it is going to be unique, 1202

1203 because we have folks at the local level, we have folks at 1204 the state level, and folks at the Federal level who will be 1205 leveraging the network. 1206 Ms. {Clarke.} I thank you very much for your response. 1207 I yield back. Thank you, Mr. Chair. 1208 Mr. {Walden.} The gentlelady yields back. The Chair 1209 recognizes the gentleman from Ohio, Mr. Johnson. 1210 Mr. {Johnson.} Thank you very much, Mr. Chairman. Mr. 1211 Kennedy, you know, the law governing the FirstNet included a 1212 provision that would allow the states to opt out of FirstNet 1213 network and deploy their own network, then connect to 1214 FirstNet, so I have got a few questions about how this opt 1215 out process will work, particularly given that -- the region of 1216 the nation--region of the state that I represent is very 1217 rural. So I have some questions. 1218 Given the projected release of the FirstNet request for proposal at the end of 2015, or the beginning of 2016, what 1219 1220 is the likely timeline for governors to make their decisions 1221 as to whether their states will opt out, or in, to FirstNet?

in 2016 to early in 2017 timeframe, when they would be

Mr. {Kennedy.} The anticipated timeline would be late

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1224 presented with a state plan. It is at the presentation of a 1225 state plan when a state governor then would have the 1226 opportunity to opt in to the network, or to take on that 1227 responsibility for themselves to deploy the radio access 1228 network in their state. 1229 Mr. {Johnson.} Okay, all right. Will the governors 1230 have all of the data points, such as specific cost per user, available to them in time for them to make an informed 1231 1232 decision to opt in or opt out, and what are your plans to 1233 communicate the kind of information that the governors will 1234 need to make that decision? 1235 Mr. {Kennedy.} Our plan is to do a very a detailed RFP 1236 process that will produce the kinds of information that 1237 outlay the costs and the expected offsetting revenues that 1238 can support the network, and to drive all that information, 1239 in addition to things such as coverage objectives, into a 1240 state plan. It is that state plan that is that document that 1241 provides the information that will give them the ability to 1242 make that as an informed decision. 1243 And, as part of the consultation efforts that are now started and ongoing, we expect ongoing conversations over the 1244

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     next 18 months on exactly these topics--
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           Mr. {Johnson.} Um-hum.
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           Mr. {Kennedy.} --and to discuss them, and to share
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      information in a two-way dialogue, so that when that state
     planning gets to the desk of a governor, it should not be the
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      first time that they are hearing about it.
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           Mr. {Johnson.} Um-hum.
           Mr. {Kennedy.} Many folks, just like Mr. Davis here, as
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     a CIO, have been very actively involved for exactly this
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      reason, in addition to wanting to see the importance of this
     network, but they have a job to inform their governors.
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1256
     have a job to make sure that they are watching this closely,
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     and they are participating.
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           One of the things that I have seen is the more that
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      folks are participating, the more informed they are, and the
     more that we can share and have that kind of informed
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      dialogue, and I think that is absolutely critical. Having
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     CIOs, state public safety commissioners, and also local
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     police, fire, and EMS leadership, in addition to the
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      governors themselves, you know, learning and getting involved
     with FirstNet is one of the best ways to understand that key
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1266 decision to opt into the FirstNet deployment of the network, 1267 or to take on that responsibility to deploy it themselves in the state for the radio access network. 1268 1269 Mr. {Johnson.} Well, let us say a state opts out. Are 1270 there revenues, and if so, what type of revenues might be 1271 available to them to help support their end of the network? 1272 Mr. {Kennedy.} This is a complex topic, in that there 1273 are revenues that could come from spectrum management lease 1274 agreements, both to FirstNet, but also for supporting that 1275 kind of deployment. But one of the things that we have explored in our second notice is exactly how this mechanism 1276 1277 will work, and we are still digesting the comments that we 1278 have recently received on that, so there is more to come on 1279 that in the future. 1280 Mr. {Johnson.} Okay, great. Mr. Davis, you state that 1281 FirstNet has made significant progress in communicating with 1282 you on concerns that are being raised. So, as we get closer 1283 and closer to the endgame here, to the expected final RFP, do 1284 you have any specific recommendations on how we can improve 1285 this communicating process? 1286 Mr. {Davis.} Actually, you know, the--Executive

1287 Director Kennedy has been pretty transparent. I think the 1288 more transparent they are, the more that we have--that 1289 conversation is going on, so that there isn't surprises in 1290 the end. And even if we know it may not be perfect, it is 1291 still better to know--1292 Mr. {Johnson.} Um-hum. 1293 Mr. {Davis.} --early so that maybe we can assist in 1294 that process. But I think--right now I think everything 1295 seems to be rolling along fairly well. The proof will be in 1296 the pudding, as we get all of our planning documents 1297 together. There has been a lot of communication in Ohio with 1298 the--all different levels of first responders, the volunteer 1299 firemen, I mean, everybody. We have those meetings on a 1300 regional basis just within Ohio to communicate what is 1301 coming, and what they should be expecting, and what 1302 information we need from them so that we can be able to 1303 articulate that--1304 Mr. {Johnson.} In 10 seconds let me ask you one final 1305 question. So who are the current users of the Ohio land 1306 mobile radio system, and once deployed, do you envision the 1307 public safety broadband network in Ohio to have a similar

1308 user base? And if so, why or why not? 1309 Mr. {Davis.} There are quite a few folks. I think 1310 there--right now, today, I think there is about 50,000 users 1311 on our system. The majority of those are coming out of 1312 public safety and state agencies, as well as the sheriff's 1313 office, and others, and local law enforcement and emergency 1314 response. 1315 I think that right now our network doesn't handle the 1316 data requirements that you will see from FirstNet. I mean, 1317 that is the key, is getting access to the applications in a 1318 quick fashion. That push-to-talk component is a pretty 1319 critical thing. It is a closed system. We have other 1320 entities on there besides state and local government folks. 1321 I think the Federal government has some process in there. But I think we have three towable towers that we pull in too 1322 1323 when there are emergency situations. 1324 But, for the most part, that is focused on really that 1325 push-to-talk communication piece, and nothing is more 1326 important than somebody outside, by himself, being able to 1327 press a button and get a response. 1328 Mr. {Johnson.} Okay. Thank you. Mr. Chairman, I yield

1329 back. 1330 Mr. {Walden.} The gentleman yields back. The Chair 1331 recognizes the gentleman from Missouri for 5 minutes. I am 1332 sorry. I am sorry, Mr. Doyle. Sorry, I got ahead of myself. 1333 Mr. {Doyle.} Thanks, Mr. Chairman, and thank you to the 1334 witnesses for your testimony today. 1335 Mr. Davis and Mr. Kennedy, I have heard some concerns 1336 from some of the public safety community in Pennsylvania 1337 about who will qualify to use FirstNet, who will make the 1338 final decisions about eligibility. Beyond police, firefighters, and other first responders, there are other 1339 1340 individuals and organizations that play an important role in 1341 emergency response. Shouldn't states ultimately decide who 1342 has both permanent and temporary access to the first 1343 responder broadband network? For instance, if a building is 1344 on fire, and police or firefighters, they might find it very 1345 valuable to be able to communicate with the building 1346 security, or those in charge with managing the evacuation. 1347 Shouldn't the incident commander in these cases be able to 1348 make the final decision about who has access to the network? 1349 Mr. {Kennedy.} From our perspective, we have

1350 overwhelmingly heard that from states as well, and our 1351 current definition would allow them to do that. Our current 1352 definition would allow the incident commander to have access 1353 to all those type of entities that would allow them to 1354 communicate and handle that scene, no matter how large or 1355 small that it is. Our third notice was very much focused on 1356 that, and our third notice just closed last week. As we 1357 digest those comments that came in from states and from others, we will come out with a final determination, but our 1358 1359 goal was to be very responsive to those requests that have come in from the states. 1360 Mr. {Doyle.} Great, thank you. Mr. Kennedy, first 1361 1362 responders in Pittsburgh, and many other cities across the 1363 country, use the T band for communications, and, as part of 1364 the Spectrum Act, the FCC will reclaim that spectrum. Do you 1365 see the deadlines that are set for that process as being 1366 problematic for first responders that depend on that spectrum 1367 to communicate, or do you believe FirstNet will be online in 1368 the effective localities in time to mitigate this shift? 1369 Mr. {Kennedy.} There are a couple elements to this. We are aware of the concerns of those public safety 1370

1371 jurisdictions using T band spectrum today, and the T band 1372 relocations provisions that are part of the Act. It is the 1373 FCC, however, that is in charge of that T band relocation, 1374 and it would be better for them to answer specific questions 1375 about timing and so forth related to that effort. 1376 FirstNet, we have been very focused on working with the 1377 international standards community, the 3GPP community, Third 1378 Generation Partnership Project, that is focused on making 1379 sure that we have a standards-based approach that goes to 1380 putting mission critical voice in the future on our network. 1381 At deployment of the network, we are looking at having non-1382 mission critical voice, or what you would look at as 1383 cellular-type communications, or over the top communications, 1384 on broadband, and plan to offer that as part of the initial 1385 deployment. 1386 But when it comes to mission critical voice 1387 communications, we are really looking at leveraging those 1388 international standards to make sure that we only go to those key seven functions that are part of the mission critical 1389 1390 voice standards that are being done right now, and that they are implemented not just in the standards bodies, but that 1391

1392 they are being utilized, and that public safety builds a 1393 trust up that those standards are ready for them. And public 1394 safety will decide when they are comfortable with mission 1395 critical voice on broadband in the future. 1396 So that is happening. The standards bodies are working 1397 to have that initial standard done by mid-2016. It will take 1398 some time for that technology to get into the actual 1399 technology ecosystem. And there are some other countries 1400 around the world that are actually looking at moving to 1401 mission critical voice sooner than the United States that 1402 will be doing some testing. But, for us, we want to make sure that public safety is confident in both the technology, 1403 1404 and in the standards, and that they have been rolled out, and 1405 that they are using the network for other purposes first. 1406 Mr. {Doyle.} Great. Gentlemen, thank you. Mr. 1407 Chairman, I will yield back. 1408 Mr. {Walden.} Thank you very much. The gentleman 1409 yields back. Now the gentleman from Missouri is recognized 1410 for 5 minutes. 1411 Mr. {Long.} Thank you, Mr. Chairman. Mr. Kennedy, it appears that, in many rural areas, first responders will have 1412

1413 to rely on roaming with existing rural wireless providers for 1414 network coverage, instead of using the national public safety 1415 broadband network. How and when are you planning to address 1416 roaming coverage? 1417 Mr. {Kennedy.} Roaming is certainly something that was 1418 envisioned in the Act, and we are allowed to enter into 1419 roaming agreements, but we are also looking at leveraging 1420 rural build-out milestones, and making sure that we have 1421 rural build-out at every phase of deployment of the network. 1422 So we are looking at both the deployment that needs to occur, but also looking at, when we get to a final RFP, what kind of 1423 efforts can be leveraged for roaming that is cost-effective 1424 1425 that can be added to the network as part of that solution as 1426 we go forward. 1427 Mr. {Long.} Any speculation on how long that building 1428 would take, the--1429 Mr. {Kennedy.} As far as building the network right 1430 now, we proposed in the draft RFP that 20 percent of the 1431 rural build-out milestones would be covered in each phase, 1432 which would be a year. So 20 percent in year 1, 40 percent in year 2, 60 percent in year 3, and so on. And so we 1433

1434 believe that that will allow for ongoing rural build-out at 1435 each phase, rather than saying it is all just waiting to the 1436 end, which is one of the concerns that we have heard. 1437 So we have tried to be very clear to proposers who are looking at bidding on the network that rural build-out is 1438 1439 very important to us. We are also trying to encourage rural 1440 telecommunication to--telecommunication firms to be a part of 1441 those solutions, and to bid on the network, and be a part of 1442 bringing solutions to the table that will allow that rural 1443 deployment to occur. 1444 Mr. {Long.} Okay. FirstNet's partners are allowed to use the excess capacity on the FirstNet network to offer 1445 wireless services to commercial subscribers. How will 1446 1447 FirstNet ensure its partners do not compete against existing 1448 commercial networks, particularly in the high cost rural 1449 areas where there population density often will not sustain 1450 more than one network to begin with? 1451 Mr. {Kennedy.} One of the things in the Act is that it 1452 requires us to look at the economic desirability of anyone 1453 proposing to bid on the network, and look at the different approaches to both, you know, leveraging different types of 1454

1455 infrastructure, rural telecommunications infrastructure, 1456 existing government infrastructure, commercial 1457 infrastructure. And so we are going to look at what is most 1458 cost effective to deploy the network, and also to have 1459 sustainability on the network. 1460 As part of those offers, they actually have to bring to 1461 the table what kinds of revenues would they bring to the 1462 table to offset the costs of public safety in both deploying, 1463 maintaining, and operating the network. And so it is 1464 important for us to look at the greater good of public safety, and how they would be served by those covered leasing 1465 1466 agreements, or those agreements by potential partners or 1467 offers to leverage the network, whether that is in rural 1468 areas or in urban areas. 1469 Mr. {Long.} That is my next question. In terms of 1470 location, where will the service first and most likely be 1471 available, urban areas, or urban and rural, or what can we 1472 expect? 1473 Mr. {Kennedy.} It is urban and rural. And--so just 1474 like I mentioned earlier, we want to have those rural buildout milestones at each phase, so certainly urban areas will 1475

get built out. Your largest number of population and public 1476 1477 safety providers, public safety entities, are actually in the more populated areas. But we also see that going to the 1478 1479 rural area, so we want to make sure that those rural build-1480 out milestones help drive that as an incentive to make sure 1481 that rural was built out at each phase. 1482 Mr. {Long.} And 3 years behind us, when do you thank 1483 that FirstNet will actually start providing service? 1484 Mr. {Kennedy.} I believe that FirstNet will start 1485 providing service as soon as we start to deploy the network, 1486 and states and areas are actually built out, and up and tested, and on the network. Currently we see the network 1487 1488 starting to be awarded, as far as deployment, in 2017, and so 1489 you will see it probably -- in the year after that that you 1490 will start seeing deployment of the network, and actually being up and operating in different areas. 1491 1492 Mr. {Long.} So you think the--it will be up in 2018? 1493 Mr. {Kennedy.} I think parts of the network will be up 1494 in 2018, and it will continue to deploy on a regular basis. 1495 One thing with wireless networks is they are ongoing 1496 deployments, and so we have the initial deployment, which we

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     are talking about a 5 years build-out of that deployment,
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      from 2017 through 2022, but we also believe that the overall
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     network will continue to grow after that, but there will be
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     additional coverage that is added. There is additional
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     capacity that is added. It is not a static network. So
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      every part of the country that even has initial deployment
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     will continue add to that deployment as time goes on.
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          Mr. {Long.} Okay. Thank you. Mr. Chairman, I yield
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     back.
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          Mr. {Walden.} The gentleman yields back. The Chair now
      recognizes the gentlelady from Colorado for 5 minutes.
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          Ms. {DeGette.} Thank you, Mr. Chairman. I just wanted
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      to ask--Mr. Kennedy, I wanted to ask you about some of the
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      efforts in Colorado. As part of the successful AWS-3
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     auction, NIST, which as--has labs in Colorado, received $300
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     million for research on standards, technologies, and
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     applications to advance wireless public safety
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     communications. Now, my understanding is that this research
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     is in consultation with FirstNet, so even though NIST only
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      recently received the funding, I am wondering if you can give
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     us the status of those consultations?
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1518 Mr. {Kennedy.} I can. We actually met with NIST last 1519 week. One of the things that we have right now--every June 1520 is a public safety communications research conference, and 1521 that conference is done with NIST and the public safety 1522 communications research lab at NIST. And it was held just 1523 last week, and literally over 500 key stakeholders came 1524 together to talk about the technical aspects, and the 1525 different research and development aspects of not just the 1526 public safety network, but public safety communications in 1527 general. We actually sat down with the NIST team and started to 1528 1529 consult and discuss on that grant program regular ongoing 1530 communications with both the NIST director and Dereck Orr, 1531 who was the Program Director of the PSCR labs. I believe we 1532 worked hand in glove with them, and that the team at NIST is very focused on bringing solutions to--1533 1534 Ms. {DeGette.} Yeah. 1535 Mr. {Kennedy.} --public safety on the LTE--1536 Ms. {DeGette.} Great. Okay, good. Now, you told some 1537 of the other members that FirstNet has worked hard to improve its outreach efforts to all stakeholders, including states, 1538

1539 and--as well as NIST, I understand you have had an official 1540 consultation with the State of Colorado. Can you tell me 1541 what is next for FirstNet in Colorado? 1542 Mr. {Kennedy.} Right now in Colorado we are asking them 1543 to start performing data collection, and I know that they are 1544 doing that. Brian Shepherd, who is the single point of 1545 contact on the Colorado team, has been sending out 1546 communication to the public safety community in Colorado, and 1547 currently their data collection is due September 30, and so 1548 they are working to gather that data on different public safety users, where re they located throughout the state, 1549 1550 what kinds of 911 calls do they have, where do they need to 1551 respond to? And so that is the current activity that they 1552 are working on. 1553 Once that data is received, we plan to go back out and meet with states to validate that data and discuss what that 1554 1555 data is telling us to become part of the state plan. And so 1556 that is what is going to--1557 Ms. {DeGette.} So that will be sometime in the fall, you think, maybe? Didn't you say September--1558 Mr. {Kennedy.} In the fall would probably be the 1559

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      follow-up to that, after September --
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          Ms. {DeGette.} Yeah.
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          Mr. {Kennedy.} --30.
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          Ms. {DeGette.} Right. Okay. And, lastly, Adams
     County, Colorado has one of the five early builder public
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      safety projects. What lessons do you think you could learn
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      from that project in Adams County?
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          Mr. {Kennedy.} Well, the good news is we have already
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     been learning lessons from that project, and we look forward
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     to the ongoing lessons now that the network is operations.
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     They are one of two networks that are already operational.
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          Ms. {DeGette.} Right.
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          Mr. {Kennedy.} There are users who are on the network
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      today, and they are looking to add a lot more users to the
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     network. As those users come on board, we are going to be
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      looking at network management of that particular network, how
     those users interact, and really look for key use cases for
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     the benefits of broadband for public safety, and how we can
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     leverage that across the country with a nationwide public
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      safety network.
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          Ms. {DeGette.} Thanks. Thank you very much. I yield
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1581 back, Mr. Chairman. Thank you. 1582 Mr. {Walden.} The gentlelady yields back, and the Chair 1583 now recognizes for 5 minutes the gentlelady from North 1584 Carolina. 1585 Mrs. {Ellmers.} Thank you, Mr. Chairman, and thank you 1586 to our panel. Mr. Kennedy, I have a couple question -- or, 1587 actually, I have one question. Mr. Long asked my other 1588 question. My colleague from Missouri was hitting on some of 1589 the rural issues, and I would like to follow up on a couple 1590 of those as well. Since FirstNet is proposing a nationwide 1591 and state and regional approach as potential paths for 1592 network acquisition, I am concerned with how this affects the 1593 rural carriers in limiting their abilities to grow as well. 1594 They have smaller service territories, and I am afraid that 1595 they are going to get cut out of the process. 1596 In addition, there is no clear incentive for large 1597 carriers to partner with the small providers to serve the 1598 rural communities. Large carriers lack presence in the -- and 1599 experience in these rural areas, and the smaller carriers are 1600 there. How can--how is this process going to move forward, 1601 and, you know, how is FirstNet going to ensure that the

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     effective and efficient creation of the network in rural
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     areas is provided?
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          Mr. {Kennedy.} We have been really trying to outreach
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      to the rural carriers themselves. We have been working with
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      the different associations, whether it is the rural broadband
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     association, whether it s NRTC, many of the other different
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     groups that support rural telecommunications across the
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     country. We have been engaging them early on. We have been
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     encouraging them to participate in our draft RFP that is out
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      right now, as well as our public notices, so that they can
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     share with FirstNet what their needs and desires are.
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           Part of releasing a draft RFP, which is not required--
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          Mrs. {Ellmers.} Um-hum.
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           Mr. {Kennedy.} --was to get that kind of feedback, both
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      from states, but also from industry, and industry includes
     the rural telecommunications--
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          Mrs. {Ellmers.} Um-hum.
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          Mr. {Kennedy.} --providers.
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          Mrs. {Ellmers.} Um-hum.
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           Mr. {Kennedy.} And we want them to come forward with
      solutions that will help make it cost-effective to build out
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      further into rural areas that will make the operation to
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      sustainability of FirstNet a success, because that is a
      requirement of the Act, and to make sure that, as we look at
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      things like rural build-out milestones. That is one of the
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      things that we are looking for comments on, and we expect to
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     receive comments on that. We think it is really important.
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     We have asked for a definition of rural, set of--
          Mrs. {Ellmers.} Um-hum.
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          Mr. {Kennedy.} --comments in a public notice. Lots of
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     communication from the rural community on that as well. So I
     think that we have heavily engaged both public safety
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     entities that are in rural--
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          Mrs. {Ellmers.} Um-hum.
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           Mr. {Kennedy.} --areas, as well as the rural
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     telecommunication entities, to be a part of making this
     network a success. We think that, whether it is teaming,
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     whether it is bringing folks together, whether it is coming
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     up with unique and innovative business models that will
      support that, that we have looked at different ways that we
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     can, and are--
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          Mrs. {Ellmers.} Um-hum.
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          Mr. {Kennedy.} --continuing to get input on that. We
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      actually have, as part of our RFP, have laid out ways that
     people can put themselves forward to team with others so that
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     different parts can get together and make sure that they can
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     be a viable entity to bid on different parts of the network,
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      and be a part of the solution.
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          Mrs. {Ellmers.} Great. Thank you, Mr. Kennedy. I
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     yield back the remainder of my time, or if anybody wants it,
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      you know, I have got about 2 minutes left.
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          Mr. {Walden.} The gentlelady yields back. The Chair
     now recognizes the gentleman from New Mexico for 5 minutes.
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          Mr. {Lujan.} Mr. Chairman, thank you so very much, and
1656
      to Mr. Davis and Mr. Kennedy, thank you both for being here.
1657
          Mr. Kennedy, as you know, before the establishment of
1658
      FirstNet, my home state of New Mexico was the recipient of a
1659
     BTOP grant to support the development of a public safety
1660
     wireless system, and it is my understanding the FirstNet and
     New Mexico have reached a spectrum licensing agreement in
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1662
     this space. Can you give us an idea if this is indeed going
      to be completed by September 30?
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1664
          Mr. {Kennedy.} To my knowledge right now, from CIO
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1665 Darryl Ackley, who is leading the New Mexico team, and his 1666 staff, Jackie Miller and others, who are working on that BTOP 1667 project, they are on track to meeting their September 30 1668 deadline. I know there is a lot of work to be done, and they 1669 are working hard to make that happen. 1670 We know that they have been collaborating to get those 1671 sites on board, and they have also had a significant part of 1672 that project that was already deployed for microwave 1673 backhaul, and other elements that are the backbone of that 1674 system. So we are really looking forward to additional 1675 lessons learned coming out of the State of New Mexico. You have some unique issues with the border that we are also 1676 1677 learning to get some key learnings out of, and so really 1678 excited, and looking forward to that project coming online. Mr. {Lujan.} Well, since you went there, Mr. Kennedy, I 1679 1680 will jump right to that question that I had for you is--New 1681 Mexico is one of the many states that has a complexity of 1682 jurisdictions with local, state, Federal Government, as you 1683 named, and--namely being a border state, with Border and 1684 Customs as well. Has the dynamic presented any unique challenges that you have seen, or that you anticipated? 1685

1686 Mr. {Kennedy.} I think there are two things. One, 1687 certainly challenges related to spectrum on the border. 1688 Mexico is looking at different ways to deploy broadband for 1689 their government needs, including public safety, than the 1690 United States, as far as their band plan. There have been 1691 some very positive announcements on the northern border that 1692 Canada is actually matched up with our same exact spectrum 1693 that we are utilizing for the FirstNet network for their 1694 public safety first responders, so we are in much better 1695 shape there, as far as dealing with those issues. So that is 1696 an issue that is ongoing when you get on the border. 1697 I will say that there has been collaboration and 1698 cooperation on sites near the border with the Federal 1699 Government, and Federal law enforcement agencies that work on 1700 the border with the State of New Mexico. And I think, 1701 working through some of that, that key early engagement and 1702 discussions has been very positive both for those Federal law 1703 enforcement agencies, and for the State of New Mexico, and 1704 the lessons learned from that engagement hopefully can be 1705 applied to other parts of the border in New Mexico, as well 1706 as other parts of the southern border in the country. So

1707 that kind of relationship building, and discussions, and 1708 working through the details to get sites online I think will 1709 be very beneficial to this project. 1710 Mr. {Lujan.} And you have heard a lot of questions from 1711 those us that represent rural states as well. What lessons 1712 learned in a state with geography like we have in New Mexico, 1713 where it is large and land based, as well--we have amazing 1714 mountains ski areas as well, so sometimes that gets in the 1715 way of transmission of some of the communications services, 1716 where you can drop service here and there, because it is so--1717 such a big state. So what have we learned that we will be 1718 able to deploy in other states? 1719 Mr. {Kennedy.} Sure. I mean, as somebody who has been 1720 a state trooper in Utah, and understands some of the rural 1721 geography that you have in New Mexico, and has traveled to New Mexico, I think it is really important that we understand 1722 1723 that there are many areas that are very difficult to 1724 communicate with today, and the needs are critical for public 1725 safety to have additional communication avenues, both in land 1726 mobile radio, and in cellular and LTE communications. 1727 I think that the kinds of things we are looking at in

1728 different communities in New Mexico today with the initial 1729 build-out will be helpful, but because your geography and 1730 terrain is so varied, I think that, you know, all the 1731 different things that we need to bring forward for options 1732 and solutions to serve very rural areas are going to be 1733 critical for New Mexico, and all the rural states. 1734 And I think as we move forward, finding unique solutions 1735 that can leverage very long ways of dealing in rural areas, 1736 we are looking at boomer sites as one of the unique elements 1737 that we have that can cover large areas with a stronger cell 1738 site that can do that. We are looking at high powered mobile 1739 devices. We are looking at satellite backhaul in some areas, 1740 and deployable units. So many different ways to try to serve 1741 rural communities, all of which I think will be important for 1742 New Mexico, and many states that have the same kind of 1743 terrain. 1744 Mr. {Lujan.} And in your testimony, Mr. Kennedy, you 1745 also outlined the establishment of a tribal working group, 1746 and hiring a tribal liaison as well. Can you provide more 1747 detail on FirstNet's efforts to ensure robust tribal 1748 consultation? And, in addition to that, I understand that

1749 you recently had a session in Santa Fe, New Mexico. If you 1750 could let us know what the next steps are? 1751 Mr. {Kennedy.} Sure. I think the establishment of that 1752 tribal working group has been very successful. Early in in 1753 FirstNet's existence Chairman Ginn appointed Kevin 1754 McGuinness, one of our Board members, to be the tribal 1755 liaison from the Board. Kevin has been actively involved in 1756 making sure that tribal communities are involved every step 1757 of the way with FirstNet. We have gone so far as even making 1758 sure that we reach out--we recently had some public notices, and actually sent notices to all of the recognized tribes to 1759 make sure that they give us input, and we have received input 1760 1761 from tribal communities as part of that. And so we are 1762 looking forward to continuing to try to have that 1763 involvement. 1764 When I talked earlier about the 56 state SPOC meeting, 1765 where we got all the single points of contact together, we 1766 actually invited the tribal working group to that meeting as 1767 well, and we had sessions where the tribal working group met 1768 with states. These breakout sessions had 15 or 20 states in there, and talked about issues that affect tribal communities 1769

1770 related to public safety broadband, and shared their 1771 concerns, and how to get each side to be more involved with 1772 each other. So I think we have done a great job of trying to 1773 bring them together, but there is a lot more to do as we 1774 continue to develop and deploy the network. 1775 Mr. {Walden.} Thank you very much. The gentleman 1776 yields back. The gentleman from Texas is recognized for 5 1777 minutes. 1778 Mr. {Olson.} I thank the Chairman, and welcome Mr. 1779 Kennedy and Mr. Davis. One of the early build-out projects 1780 is in the eastern end of my district, Harris County, Texas, 1781 population four million people, the third most populous 1782 county in America, number one in Texas. The last 2 weeks 1783 back home have been pretty rough. We had a 100 year flood on Memorial Day, with homes being lost, businesses being lost. 1784 1785 Tragically, a few lives were lost, including one woman in my 1786 district. And now Tropical Storm Bill has rolled ashore, a 1787 little bit south of Harris County. Made landfall about 150 1788 miles south, meaning the worst side of the hurricane, the 1789 northeast quadrant, is hitting my hometown directly. We are 1790 managing, but we can always use more weapons in this battle.

1791 Bill came ashore between Palacios, Texas, a population of 1792 4,661, and Port O'Connor, Texas, booming with 1,253. Those 1793 two towns can't respond like Harris County, Houston can to a 1794 crisis, and that is why I am so excited about what FirstNet 1795 promises. But FirstNet starts with these early builder 1796 programs, like in Harris County. 1797 So my question is, Mr. Kennedy, the recently released 1798 GAO report recommended that FirstNet develop a plan to better 1799 evaluate their early builder projects and capitalize on the 1800 experience gleaned from them. What is the status of those 1801 recommendations, sir? 1802 Mr. {Kennedy.} So, first of all, we put together that--1803 an evaluation plan to incorporate those lessons learned. 1804 have received many lessons learned from each of these 1805 projects, including Harris County. We most recently even had 1806 the Harris County team up to our Reston headquarters here in 1807 Northern Virginia, meeting with both our technical team and 1808 our RFP team, and sharing those lessons that they have 1809 learned so far to make sure that they are incorporated both 1810 into our acquisition, and into our overall plans and 1811 procedures, and development of the network.

1812 Mayor Parker, who is the Mayor of Houston, is on our 1813 Board. Our Board is made up of an amazing group of talented 1814 individuals both from the wireless and telecommunications 1815 industry, also from state and local government, and from 1816 public safety, police, fire, emergency medical services, and 1817 sheriff's departments. That Board, including Mayor Parker, 1818 are giving us advice on the deployment of this network, and 1819 how critical this is. And we know she has been guite busy, 1820 as well as all the officials in Texas that have been dealing 1821 with your recent flooding, and the ongoing issues that are 1822 affecting you there. We think that is an absolutely perfect reason why we 1823 1824 need to deploy this network and move very quickly, and with 1825 focus, to have consultation so that we can take in these 1826 lessons learned to work through the acquisition as the Act 1827 requires us to so that we can deploy this network as quickly 1828 as possible for public safety. 1829 Mr. {Olson.} Have there been real surprises, something 1830 that came out of nowhere, whoa, what happened here? I mean, 1831 any big surprises, or are things marching along? Challenges, gotten through them, over them? Anything we should be 1832

1833 concerned about? Some challenges that came out of nowhere, 1834 like--I mean, real world example, right now back home, we 1835 have real big problems. FirstNet could be a big part to 1836 solving those problems, and so--any idea, if we had some big 1837 problems, that--might want to help out us here in Congress, 1838 or are you guys doing all right right now? 1839 Mr. {Kennedy.} As far as big problems, I don't think 1840 there has necessarily been unforeseen major issues, but there 1841 have been things that we were worried about that have come 1842 true. So, as a good example, the intricacies in working 1843 through memorandums of agreement, and understanding to get 1844 sites, and access to sites that are government sites to help 1845 build the network, very time consuming, can be political at 1846 times, and take a lot of time and effort to put some of those 1847 in place. And so that is just one example of more than 60 1848 lessons learned that we have from these earl builder projects 1849 so far. We continue to incorporate those in our development. 1850 I think the time that it takes to consult and work through 1851 acquisition takes time, but we are working through that as 1852 quickly as we can.

Mr. {Olson.} As you build FirstNet through early

1853

1854 builders, are there any insights to use actual real world 1855 situations, like what we had in Harris County, Texas the past month as a real world example of how this thing can save some 1856 1857 lives, get this thing up and running? Any effort to try to 1858 include real world examples in your--going forward with the 1859 early builder's program, and then FirstNet? 1860 Mr. {Kennedy.} There are. We have asked for actual use 1861 cases and lessons learned that are real world use cases that 1862 are coming out of these projects. Many of them are not live 1863 and on the air yet today. Harris County and AdCom are two 1864 that are, but they have a small number of users, in some 1865 cases, that are on the network today. And as they continue 1866 to add users, I suspect we will have more lifesaving examples 1867 that we can bring forward. 1868 These projects were funded through the Broadband 1869 Technology Opportunities Program pre-FirstNet, but because 1870 they are leveraging the FirstNet spectrum, it is something 1871 that we are going to be able to get those kind of use cases, 1872 and be able to share them with public safety across the 1873 country. Mr. {Olson.} And that is important, because most of 1874

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these homes that were lost and lives lost were lost in small
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1876
      towns. Even--I mean, suburban towns, but small police force,
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     not capable like the big Houston police force, or my police
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      force in Sugarland, Texas, where I live. And so please,
     please, please, get going, get going, we need
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1880
      this. I yield back.
1881
          Mr. {Walden.} The gentleman yields back. The Chair now
1882
      recognizes the gentleman from New York for 5 minutes.
1883
          Mr. {Collins.} Thank you, Mr. Chairman. In a--excuse
1884
          In a prior life I was the County Executive of Erie
     me.
1885
     County, the largest upstate county in New York, 44 cities,
      towns, and villages, and 100 separate volunteer fire
1886
1887
     companies. I went through, 7, 8 years ago, the whole issue
1888
     of low band, 400 megahertz, 800 megahertz. I was the one
      that killed the 800 megahertz plan in New York State when
1889
1890
      they came to our county, where it had to work, as the largest
1891
     upstate county. In my talking to the volunteer fire folks,
1892
      first of all, we knew it probably wouldn't work, and
1893
      secondly, we had no money to implement it anyway. So I
1894
     pulled the county out, it cratered the whole thing across New
1895
     York State.
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1896 So talk to me as though I am this local volunteer fire 1897 guy. I just went from low band to 400 megahertz, and it 1898 works. It works really, really well. I knew 800 megahertz 1899 was a disaster. Now, tell me what my life is going to look 1900 like 5 years from now. Do I have to throw all my radios away? Am I going to go to 700 megahertz? Am I going to go 1901 1902 to a 4G LTE? Who is going to buy me my equipment? 1903 Our emergency services, central police, you know, I was 1904 county exec when Flight 3407 went down. I have had floods, I 1905 had blizzards. It was critical that we all talked to each 1906 other. Rural areas, some of our areas, believe it or not, do not today have cell coverage. So tell me what my life is 1907 1908 going to look like. Make it really simple. I am a volunteer 1909 fire chief. What is my life going to look like 5 years from now? Tell me what it is going to be. 1910 1911 Mr. {Kennedy.} When we have been out talking to a lot 1912 of volunteer firefighters and EMS personnel, most of them 1913 carry a personal smartphone today, or cell phone today, if 1914 they have coverage. To your point, there are still some 1915 areas without coverage, but let us assume they are in an area 1916 that has coverage.

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1917
          Mr. {Collins.} No, I don't know, I--mine in particular
1918
     doesn't.
1919
          Mr. {Kennedy.} Okay. So, as part of the--
          Mr. {Collins.} That is my excuse when someone reaches
1920
1921
          I tell them I am out in Wyoming County, and--sorry, I
1922
      just lost coverage. And they go, I understand.
1923
          Mr. {Kennedy.} And the really--
1924
          Mr. {Collins.} Talk to me as--both ways. Sorry.
1925
          Mr. {Kennedy.} If you are in a rural county, we want
1926
      you to participate in the New York State consultation
1927
     process. We want you to be a part of that consultation
1928
     process, get your needs on the table for the New York State
     plan. As we talked about a little bit earlier in the hearing
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1930
      today, our goal is to work with New York State to bring
1931
      forward a plan for New York State that has coverage
1932
      objectives, that has data coming back from our request for
1933
     proposal process on cost, and deployment, and coverage, and
1934
      those kind of key elements that will come to the table.
1935
           And every state has a different set of issues. We heard
1936
      from New Mexico and border issues. You have border issues in
1937
     New York State as well, but different issues on the northern
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1938
     border and the southern border. So we want all those to be
1939
     captured as part of that plan. And then coming forward to
1940
      them is they will have the opportunity to buy service, if it
1941
     meets their needs. So, for the average volunteer fire chief
1942
      in your communities, if we provide the coverage at the cost
1943
      that they are willing to pay for, they can do that. And if
1944
     we don't--
1945
          Mr. {Collins.} Yeah, but I think--
1946
          Mr. {Kennedy.} --then we have--
1947
          Mr. {Collins.} Here is--
          Mr. {Kennedy.} --not met their needs.
1948
1949
          Mr. {Collins.} You know, excuse me, here is the big
1950
      issue. There are separate budgets, in some cases no budgets.
1951
     As I said, we have 100 separate volunteer fire companies. We
     have 44 separate cities, towns, and villages. This is one
1952
1953
      county. You know, this all sounds good, but, you know, the
      tail wags the dog. I have got this small community, who is
1954
1955
      going to buy me my new stuff? I have no budget for anything,
     and yet, I can tell you, as County Executive, I needed every
1956
1957
      one of them to be listening to the same channel. I needed
     every one of them to be able to respond, which is why we went
1958
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1959 400 megahertz across the board, no ifs, ands, or buts. The 1960 county paid for the equipment. We put every--took them off 1961 of low band, killed the 800. It works perfectly. 1962 So now it is like, are we turning this all upside down? And if I have got to start over, one thing I can assure you, 1963 1964 New York State doesn't exactly talk to the localities. They 1965 may talk to New York City. They don't talk to the other 1966 localities. That is what happened on the 800 megahertz, 1967 which was a debacle. I just--I mean, should I be worried? 1968 If I am a County Executive, if I am Commissioner, Central 1969 Police Services, if I am the Commissioner of Emergency 1970 Services, I just kind of see, in a perfect world, this is 1971 great, but, boy, we don't live in a perfect world. 1972 Mr. {Kennedy.} I think you should look at it as an 1973 opportunity that FirstNet will have to provide the kinds of 1974 services at a cost that can be afforded in those rural 1975 counties, and that we can expand coverage that will give them 1976 coverage that they don't have today, and try to meet those 1977 needs that they would want to partake in the service. We 1978 will be judged on whether or not we provide that kind of 1979 service and meet their needs.

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1980
           One of the things I think that is very important, and
1981
      you mentioned this, is we will be building an operable system
1982
      that will be interoperable between all those different
1983
      agencies from the very beginning. Doesn't matter at what
1984
      level they are, doesn't matter if it is police, fire,
1985
      emergency medical services, emergency management,
1986
      transportation, and that will be--the opportunity will be to
1987
     partake in a system that has those abilities.
1988
          Mr. {Collins.} I have got 4 seconds, but what do you
1989
     envision? I--now, I am not talking about just the beginning.
1990
     Are we going to be there in 5 years, is it 10 years, is it 20
1991
     years? What--
1992
          Mr. {Kennedy.} I think right now we are planning a 5
1993
      year deployment that will start when the RFP is awarded in
1994
     early--
           Mr. {Collins.} Well, deployment is different than--it
1995
1996
      is working--it is just like 400 megahertz. Don't even think
1997
      about it, take out my radio, everyone is listening.
1998
          Mr. {Kennedy.} You have two different types of systems,
1999
     land mobile radio and LTE. They are not exactly the same,
2000
     and so it would not necessarily a replace. It is maintain
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2001
     the existing radio networks that you have now, and leverage
2002
     broadband as it comes forward. As public safety builds trust
2003
      in that network, they will leverage and--
2004
          Mr. {Collins.} That is--
2005
          Mr. {Kennedy.} --utilize--
2006
          Mr. {Collins.} --part of the key, so--my time has
2007
      expired. Thank you, Mr. Chairman.
2008
          Mr. {Walden.} Thank you very much. The gentleman's
2009
      time has expired. The Chair now recognizes for 5 minutes the
2010
      gentleman from Illinois.
2011
          Mr. {Shimkus.} Thank you, and thanks for staying.
2012
     Usually I get done earlier, but it is kind of good that I was
2013
      kind of last, because--going to follow up on a little bit of
2014
     what my colleague from New York mentioned, and some other
2015
     concerns. Thanks for being here. Testimony has been great.
     Mr. Davis, thank you, because you give me a little more
2016
2017
     comfort, having someone more local to the state. Because,
2018
      you know, the basic debate the last couple years was to make
2019
      sure our first line responders had a dedicated system by
2020
     which we could communicate, and then bring on hopefully new
     technologies and devices, with how the world changes so
2021
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2022 quick. 2023 Mr. Kennedy, you have been very articulate, and I think 2024 that has been helpful, but I get -- always get concerned when 2025 we have -- we use the terms government business model, 2026 independent corporation. I am not sure I have seen the 2027 Federal Government be able to operate that without 2028 challenges. So, I don't want to be a fly in the ointment, 2029 but the -- it really follows up on some of Mr. Collins's 2030 comments too, because it is not just--he is trying to get a 2031 picture of where we are going to be, but he also said, you 2032 know, for the local devices, we have got the -- obviously the 2033 radio communications, but, of course, we are talking about 2034 broadband, and the issue of how do you get -- eventually get to 2035 hardened commercial devices, which I don't know we talked 2036 much about. He did mention who is going to pay for this? 2037 And so when we have a network with seven billion in 2038 capital to deploy, and be able to match the coverage, 2039 capacity, apps and functionality of the commercial network--2040 commercial networks spend about 20 billion or more a year in 2041 upgrades. How are we going to do this? If we--if you only have seven, and the commercial side spends 20 yearly to keep 2042

2043 up to date, aren't you a little concerned? 2044 Mr. {Kennedy.} This is a complex funding mechanism to 2045 make this work, but I do believe Congress has come up with a 2046 very unique model that is doable. We have three major 2047 funding sources, the \$7 billion in construction funding that 2048 you discussed, leveraging the excess capacity on the 700 2049 megahertz spectrum that is part of the network, which is 2050 absolutely critical. One of the elements in the Act was 2051 called covered leasing agreements, which allows us to lease 2052 that excess capacity to be able to leverage that funding both 2053 in deployment and maintenance and operations of the network. 2054 Mr. {Shimkus.} And that will be leased to other users? 2055 Mr. {Kennedy.} As part of the RFP process, that is allowed to be leased to commercial users, who can go ahead 2056 2057 and then resale that network to consumers, which we are not allowed to do as part of the network. That resale, or that 2058 covered leasing agreement, the way it works in there is a 2059 2060 much larger portion of the funding than the \$7 billion 2061 portion. Those two elements, along with fees, user fees, for 2062 the most part, core network fees, those are the three elements that will come together to make this a successful 2063

2064 network. 2065 Also, we are going to have to provide a network to 2066 public safety that meets their needs. We are going to have 2067 to meet the key objectives of public safety for reliability, for resilience, and providing devices, both commercial 2068 2069 devices and hardened devices, that will meet their needs. 2070 One of the things we have seen in the commercial networks 2071 today is that they have a larger variety of devices that can 2072 met the needs for both voice, video, and data, and we believe 2073 that that rich ecosystem, on a nationwide scale, with 2074 millions of users that can come forward and create devices that are cost effective, will be able to bring down those 2075 2076 prices that the Ranking Member mentioned earlier to very 2077 affordable prices for devices both for vehicles and for 2078 individuals. 2079 Mr. {Shimkus.} Can you give me some comfort that in 10 years we don't have a--well, we will have a--maybe a somewhat 2080 2081 vibrant LTE system, and the rest of the world has moved on? 2082 Mr. {Kennedy.} I think very similar to my earlier 2083 comments, that we are planning on building a recapitalized network that can be upgraded and maintained into the future. 2084

2085 Part of the reason we have been so focused on the 3GPP 2086 standards, and sticking with international commercial 2087 standards for building this network is that we will continue 2088 to upgrade and maintain the network for those new standards as we move to 5G and 6G in the future. 2089 2090 Mr. {Shimkus.} Well, we want you to be successful. We 2091 wish you good luck, and we look forward to following this. 2092 Mr. Chairman--and I yield back. 2093 Mr. {Latta.} [Presiding] Thank you very much. The 2094 gentleman yields back, and I believe we have exhausted all of 2095 our members here to ask you all questions, but I know on--I 2096 want to thank you for your time today. I want to also, from 2097 Chairman Walden, and also the Ranking Member, the gentlelady 2098 from California, for your time, your answers today. It was 2099 very, very informative. And, judging from the folks that 2100 were in the audience today, that they had to fight for a 2101 seat. So--but really want to thank you for your time and 2102 your effort for being here. Mr. Davis, thanks very much for coming in from Ohio on pretty short notice. Mr. Kennedy, 2103 2104 again, thank you for your testimony today. And if there is 2105 no further business to come before the Committee, we stand

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2106 adjourned.

2107 [Whereupon, at 3:57 p.m., the Subcommittee was

2108 adjourned.]
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