Public Service Commission - Panel I February 24, 2016

STATE OF NEW YORK PUBLIC SERVICE COMMISSION -----X TELECOM STUDY - CASE 14-C-0370 TECHNICAL CONFERENCE PANEL 1 - The Status and Adequacy of Legacy Systems. -----X NYS Department of Public Service 90 Church Street New York, New York February 24, 2016 10:00 a.m. **MODERATORS:** MICHAEL CORSO, Chief Consumer Advocate, Director of the Office of Consumer Affairs, NYS DPS PETER McGOWAN, Chief Policy Advisor, NYS DPS Reported by: Kari L. Reed _____ _ _ _ _ _ _ _ _ _ STENO-KATH REPORTING SERVICES, LTD. 139 Mamaroneck Avenue Mamaroneck, New York 10543 (212)95-DEPOS (953-3767)*(914)381-2061 Fax: (212)681-1985*(914)381-2064 Email: stenokat@verizon.net

PANELISTS: Richard C. Bozsik, State Government Relations, Verizon Debra Goldman, Telecommunications Policy Director, CWA Susan Lerner, Executive Director, Common Cause New York Robert Puckett, President, NYS Telecommunications Association ALSO PRESENT: Commissioner Patricia L. Acampora Commissioner Gregg Sayre Audrey Zibelman, Chair, NYS PSC Karen Geduldig, Director of Office of Telecommunications, DPS

Proceedings - 2/24/16 - Panel 1 1 2 MR. McGOWAN: Okay, if we can settle in and get started. Good morning. 3 My name is Peter McGowan. Welcome to the 4 technical conference that was recently 5 6 noticed -- you're ready, right -- in case 7 14-C-0370, in the matter of the study on the state of telecommunications in New York. 8 I want to just start by 9 acknowledging that with us today are 10 11 Commissioners Acampora and Sayer. I expect 12 Chair Zibelman to be here today, but there may have been something that has delayed or 13 interrupted with her ability, but I know she 14 15 was planning on being here today. So thank 16 you very much for being here. 17 And just to start out, I'm going to turn to my colleague, Karen Geduldig, who is 18 19 the current and recent addition to our team as the director of the office of 20 21 telecommunications who will just give a couple of introductory remarks. Karen. 22 23 MS. GEDULDIG: Hello. Is this on? 24 Yes. 25 Good morning, and welcome to the

Proceedings - 2/24/16 - Panel 1 1 2 Department of Public Service's technical conferences on telecommunications. These 3 technical conferences are being held as part 4 of the Department's comprehensive examination 5 6 of the communications technology industry. 7 I'm Karen Geduldig. As Peter said, I'm the new Director of the Office of 8 Telecommunications at the Public Service 9 Commission, and I have the honor and privilege 10 11 of welcoming you here today. So what drove the department to 12 hold these telecommunications conferences. 13 The types of technologies that consumers are 14 15 using today are rapidly changing before our eyes. There are more options today than ever 16 17 before. And each type of communication technology puts increasing demands on the 18 network. Each type of communications 19 technology works a little bit differently. 20 They have different strengths and they have 21 different weaknesses. Some of them are 22 23 well-known and others less so. Cost is a 24 limiting factor for use of these services, as is availability. And that's the backdrop 25

Proceedings - 2/24/16 - Panel 1 1 2 against which the Department launched and was petitioned to conduct this comprehensive 3 examination of telecom in the State of New 4 York. The purpose of the study is to evaluate 5 6 from a technical point of view as well as the 7 consumer's point of view how to best ensure that the policies, economy, and consumers of 8 New York State are best protected. With these 9 technical conferences, a cross-section of 10 11 advocates will deeply analyze the options, the 12 opportunities and the issues that consumers confront when they're using these 13 communications technologies. And we can 14 15 discuss our respective roles that we can take to make sure that these services are 16 17 available, affordable, reliable, secure, and flexible enough to keep pace with changing 18 19 demand. I'm moving ahead of my slides, I 20 apologize for that. 21 Within the study the department 22 23 has, among other things, produced a factual assessment of the telecommunications in New 24 25 York State, and we sought public comment from

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2	consumers and advocates across the state.
3	There have been many themes that have emerged.
4	For example, consumers have increasing numbers
5	of communications technologies and platforms
6	to choose from, and their choices continue to
7	change and to overlap.
8	In 2006, which was the last time
9	the department really updated its
10	communications related policies, most people
11	used a phone to communicate or email. Voice
12	over IP telephony was relatively new, and,
13	wireless telephony had been dominant for
14	approximately 24 months. Email was the
15	prevalent way to communicate in a non-voice
16	capacity.
17	Today the choices are astounding.
18	Traditional voice communications are served by
19	any of three types of wire line systems, both
20	copper, fiber and cable as well as wireless.
21	People are using SMS texting not just to
22	communicate with friends and family, but also
23	to receive critical updates on things like
24	school and work closures, updates on
25	emergencies and weather related incidents, and

Proceedings - 2/24/16 - Panel 1 1 2 to receive things like reminders about doctor's appointments. People are using their 3 Internet connections for voice and video 4 communications. They -- products like Skype 5 6 and Go To Meeting allow for people to talk to 7 one another across the country and across the world, just for the cost of an Internet 8 connection. And we have a proliferation of 9 social media sources to allow for mass 10 11 communications and crowd sourcing. 12 So these types of innovations are not us impacting our social and family 13 communications, they're greatly expanding 14 15 things like employment flexibility, business and nonprofit coordination, and massive relief 16 17 efforts for global catastrophes. So this graph is taken directly 18 19 from the department's factual assessment, and it directly illustrates that consumers are 20 making different choices. So according to 21 this graph, I know it's a little bit of an eye 22 23 chart, in 2000 roughly two times the consumers were using traditional telephony systems offer 24 25 wireless. By 2006 the trend had completely

Proceedings - 2/24/16 - Panel 1 1 2 reversed. And by 2013, consumers were using wireless telephony roughly four times more 3 than traditional telephony. And in fact, by 4 2013, you'll see that voice over IP telephony 5 6 had begun to overtake traditional. 7 So another theme has clearly emerged from the factual assessment, and 8 that's broadband has become the century's 9 essential service, much like telephony was 10 11 last century. Broadband is critical to the acceleration of commerce in our state and in 12 our economy. It's critical to our state's 13 efforts in energy, health care, public safety 14 15 and more. But how? So having a sufficient Internet connection allows people to attend 16 educational institutions, take certifications 17 or training courses that they might not have 18 19 ever even known about or didn't have the financial means to attend in person. This in 20 and of itself creates employment 21 opportunities. But when you couple that with 22 23 remote job opportunities or telecommuting, your employment opportunities expand even 24 more. And this can be particularly important 25

Proceedings - 2/24/16 - Panel 1 1 2 for some of our citizens living in more remote areas of the state. 3 The Internet has clearly created 4 opportunities to increase a business's 5 6 customer base, which is very important for our 7 small and new businesses. And what we're also seeing more of is how broadband can improve a 8 citizen's unique success in society. And I'm 9 talking about here is the Internet of things. 10 11 The Internet of things has expanded the Internet to everyday devices that can 12 communicate -- that can connect to the 13 Internet and communicate. It's everyday 14 15 devices acting as sensors to collect and transmit data back to consumers in a way that 16 benefits them. And there are a long list of 17 examples. Smart energy meters. They collect 18 19 data about a homeowner's energy use, and empower the homeowner to embark on a more 20 21 efficient energy use pattern. The homeowner saves money, which incentives them to have 22 23 even more efficient energy usage. Now, if you 24 multiple that phenomenon across multiple 25 households, the impact on the environment and

Proceedings - 2/24/16 - Panel 1 1 2 on our state and our nation's global dependency on energy can be very positive. 3 At home patient monitoring is 4 another great example of the Internet of 5 6 things and the impact on our citizens. So 7 with at home patient monitoring, health care providers can send patients home to cover 8 recover with a device that transmits the 9 health statistics back to the doctors and 10 11 nurses at the hospital. This offers a low 12 cost way for patients to recover that is also more comfortable for the patient and has a 13 higher success rate. 14 Fit Bits. So Fit Bits seem like a 15 16 nice to have. But there are many schools that 17 are contemplating deploying Fitbits to elementary age children. When those bracelets 18 19 interact and communicate back to the kids, it generates a competition around who has taken 20 21 the most steps by class, by day, by year, and that in turn can be a very low cost and 22 23 effective way of combating things like 24 childhood obesity and diabetes. 25 Connected cars. Connected cars are

Proceedings - 2/24/16 - Panel 1 1 2 using broadband to communicate with one another to prevent accidents, limit 3 congestion, and have a -- limit congestion and 4 have more fuel effective travel. Connected 5 6 cars can also communicate with emergency 7 response, which can shorten and make emergency response more effective. 8 9 And speaking of emergency response, broadband and networking is and will continue 10 11 to play a major role in responding to crises and recovering from disasters. From alternate 12 communications to the management of assets and 13 resources in these types of emergencies, 14 15 communications will be the key to an aligned 16 and effective emergency response. And the list really does go on and 17 This is a state of communications 18 on. 19 technology that the department is evaluating. So, as the department undertakes 20 this analysis of the industry, it remains 21 dedicated to continuing to protect consumer 22 23 interests, which includes things like access to critical communications services and just 24 and reasonable pricing. And the department is 25

Proceedings - 2/24/16 - Panel 1 1 2 also dedicated to ensuring that service is 3 reliable. But we also recognize that consumers should not just have reliable 4 service but that businesses should be 5 6 incentivized to produce superior service. We want to incentivize the market to develop 7 better products, improve service and continue 8 to be better. It's possible that these 9 interests are potentially at odds and may 10 11 require balancing. And in that light the department is looking to generate policies 12 that balance these interests through these 13 conferences and other opportunities to 14 15 participate in the study. But we also believe that it's 16 17 possible for these interests to align. And that is another purpose of these technical 18 19 conferences. By engaging with stakeholders and experts and consumers, we believe we can 20 find the best balance and alignment with 21 consumer interests, innovation and superior 22 23 service.

24 So today's conference hosts three 25 panels, which are meant to generate insights

Proceedings - 2/24/16 - Panel 1 1 2 and commentary that will be part of the basis to staff recommendations to the commission 3 about whether and how to modify its 4 communications related policies to balance and 5 6 align these interests. 7 So these panels are, panel one, which will start shortly, which is the status 8 and adequacy of traditional systems, where 9 we'll be exploring service quality and 10 11 reliability of services over legacy systems, long and short term challenges, customer 12 13 migration trends and competition, and economic and physical sustainability. Panel two is on 14 15 the status and adequacy of advanced broadband systems, where we're exploring barriers to 16 17 deployment, the evolution of competition, whether the market has produced sufficient 18 19 service standards and reasonable pricing and lack of access in certain regions of the 20 state. And panel three, which is tomorrow, is 21 on legal and regulatory issues. We will be 22 23 exploring the reclassification of broadband as a telecommunications service, the state's 24 25 obligation to encourage advanced

Proceedings - 2/24/16 - Panel 1 1 2 telecommunications services, and other jurisdictional questions related to the 3 evolving communications platforms and 4 services. 5 6 I and other department staff will 7 be at the conference for both days. And I look forward to meeting and talking to 8 everybody, both one on one and at these 9 panels. And with that I'm going to turn it 10 11 back over to Peter and to Michael Corso for 12 panel one. Thank you. 13 MR. McGOWAN: Great. Thank you, Karen. And if you could, Karen --14 15 MS. GEDULDIG: Yeah. 16 MR. McGOWAN: -- just peal back that one chart from the assessment. And 17 rather than try to get into summarizing the 18 19 quite extensive facts that were set forth in the assessment, in my view that chart is kind 20 21 of the best way to get a picture for what is happening today, and what has -- what has 22 23 happened since the Commission's last major 24 review in Comm 3 ten years ago. 25 So now we are going to delve into

Proceedings - 2/24/16 - Panel 1 1 2 panel one. We have a series of questions that we designed, trying to engage in the issues 3 that were the most important issues to engage 4 in. 5 And thank you to the panelists for 6 assembling today. 7 I do want to note that unfortunately last night we heard from Richard 8 Berkeley, who's experiencing some serous back 9 problems. And it would have been -- it was 10 11 impossible for him to join us today. So we're disappointed that Richard could not make it. 12 We reached out to Susan Lerner last night, and 13 she graciously agreed to sit in the panel 14 15 today. So we appreciate your coming. I know that this is a last minute thing. 16 17 But, you know, the point of today, and really both today and tomorrow is to begin 18 19 to join some of these issues. So let's, I'm trying to have a conversation, a discussion 20 about the issues. And the most important 21 thing to me is to frame up the right 22 23 questions. Because there's lots of questions that we could ask, but I think it's important 24 25 that we frame up the right questions so that

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16 Proceedings - 2/24/16 - Panel 1 1 2 we are pursuing the right things, all of which is designed to promote the public interest. 3 That's what we're here to do. 4 So hopefully you heard some of 5 6 that. 7 Again, Susan Lerner, thank you for joining us today. 8 9 Also with me on the panel, Debra Goldman from CWA. And Richard Bozsik from 10 Verizon. And Bob Puckett, who represents the 11 12 New York Telephone Association. So that is not necessarily all of the carriers in New 13 York, but a large number of the smaller 14 15 carriers in upstate New York. So the first question that I 16 17 thought we should explore is really a very broad question, and in some respects it's a 18 19 hard question to answer, but I think it's a question worthy of some discussion. 20 So the 21 question was posed as follows. Have consumers received benefits, have they received positive 22 23 or better -- positive, better or negative, 24 worse results from light -- from the light 25 regulatory approach that the Commission has

Proceedings - 2/24/16 - Panel 1 1 2 used in the telecommunications markets. So by way of a very, you know, brief history that 3 hopefully we're all aware of, many, many years 4 ago, it's probably 20 years ago at this point, 5 6 the Commission did engage in rate of return 7 regulation, cost of service was the sort of driving force for setting rates and service 8 quality. The Commission still does that in 9 certain areas, certain industries, but it has 10 11 not done that in the telephone market for 12 probably I'm thinking 15, 20 years. Instead, it has gravitated towards reliance, increasing 13 reliance on competition to produce benefits 14 15 for consumers in New York. So the question is, how has that worked. And maybe even a 16 17 more fundamental question is how would you even begin to approach that question. How 18 19 would you analyze that question to know how to analyze it. 20

21 So let me start by reading a piece 22 from a study that was submitted in this case. 23 It comes from Professor John Mayo. And he 24 writes as follows: "New York was an early 25 leader in the recognition of the emergence of

Proceedings - 2/24/16 - Panel 1 1 2 competition in telecommunications markets. The Commission embraced this transition and 3 enabled the emergence of competition. Yet, in 4 spites of the New York Commission's findings 5 6 in 2006 that telecommunications industry in 7 New York was sufficiently competitive to rely on market based outcomes rather than public 8 interest regulation, regulatory changes in New 9 York had subsequently been modest" -- I think 10 modest relative to other states and other 11 regulatory agencies. "Of note, this slow down 12 has occurred over the same period in which the 13 marketplace, particularly in the less 14 15 regulated wireless and broadband sectors, has produced astonishing technological gains, 16 17 choices, investments, and prices that have all benefited consumers." "Nevertheless", he 18 19 continues, "some observers have gone so far as to argue that movement towards a lighter touch 20 regulatory environment should be reversed." 21 So that's kind of another way of expressing 22 23 thoughts of all right, so how do we know. Have consumers benefited from the commission's 24 25 light regulatory touch or not.

Proceedings - 2/24/16 - Panel 1 1 2 So John Mayo goes on to look at this from the perspective of several points of 3 data that presents to end users of New York 4 and others, consumers of New York, about how 5 6 have they been affected by this regulatory 7 regime. And he looks at it in terms of outputs, which is kind of a measure of well, 8 what has happened to penetration rates. 9 Have consumers in New York had penetration rates 10 11 increased, have they decreased. Have consumers increased their use of these 12 products. If they have, that might be a sign 13 that the marketplace is satisfying consumers' 14 demands. Second, has innovation occurred, has 15 it occurred to the benefit of consumers. 16 17 Third, what about price. What has happened to price. Have prices gone up, down, have they 18 19 moved in ways that produce more efficient outcomes. And then, finally, investment. 20 Have investments been made -- have been --21 investments been made to respond to consumer 22 23 demand. 24 So I thought that was an 25 interesting way of analyzing this broadest

Proceedings - 2/24/16 - Panel 1 1 2 question, and so that is the first question here. Let me pose that question then and let 3 me ask maybe Richard Bozsik, since this study 4 came in through your comments, to take a first 5 6 crack at it. 7 MR. BOZSIK: Thank you. MR. McGOWAN: And then maybe we can 8 move to Deb, all right? 9 MR. BOZSIK: Thank you, Peter, very 10 11 much. I'm not going to -- it is. 12 MR. McGOWAN: Can you see that green light? 13 14 MR. BOZSIK: Yeah. Thank you. 15 I'm not going to comment on 16 Dr. Mayo's study, that's his work. And the 17 study provides additional information in regards to his analysis. And I'm sure that 18 19 that topic can be discussed in the second panel, which he's going to be on later this 20 afternoon, if it presents itself. But let 21 me -- let me give you Verizon's perspective. 22 23 I mean, from what all of Karen was 24 saying before, I think it's fair to say that 25 the wireless and the broadband market in New

Proceedings - 2/24/16 - Panel 1 1 2 York as well as elsewhere in the United States has exploded with innovation and service 3 offerings that customers only dreamed about 4 years ago. In fact, since the last time that 5 6 the Commission did a study on 7 telecommunications the world has changed. And I think the light touch regulatory approach 8 that the Commission took in that respect has 9 really fostered the market in regards to 10 11 innovation and investments. I mean, that said, the Commission has definitely made some 12 13 progress on having a lighter touch on the wire line regulations over the course of the past 14 15 several years. For instance, I think the Commission and the service quality improvement 16 17 plan acknowledged the impact of competitive alternatives on customers, and obviously --18 19 with the focus obviously on providing good service to customers that the Commission 20 considered vulnerable. 21 I think there's obviously some 22 23 things that need to be done. For instance, in 24 regards to light touch regulation, there are

certain things that the Commission still has

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Proceedings - 2/24/16 - Panel 1 1 2 in place that go back decades ago, back to when Verizon and other companies doing 3 business in New York were fully regulated 4 providers. For instance, just to give one 5 6 example, is the sale of property, the 7 transactions that we have for the sale of buildings. In that situation Verizon needs to 8 file with the Commission for permission to 9 sell its properties and confirmation for that 10 11 transaction. And given it's a very 12 competitive market in New York for real estate as well, it ultimately has the opportunity to 13 tie things up. 14 15 I think overall the light touch regulation and the steps that the Commission 16 17 have taken are good, have been good for the market. I think there's more that needs to be 18 19 done. And, as I mentioned earlier, I think that approach incentivizes investments in the 20 21 market. MR. McGOWAN: Okay. Deb? 22 23 MS. GOLDMAN: Well, I'm going to 24 present a different perspective. First I want 25 to say thank you to the Commissioners for

Proceedings - 2/24/16 - Panel 1 1 2 hosting this conference, to the staff for the work that you've done. And we're delighted to 3 participate and look forward to continuing 4 participation. 5 6 Is this on? 7 MR. McGOWAN: See that green light has to come on, so push that. There you go. 8 MS. GOLDMAN: Thank you to the 9 commissioners and to the staff for all of the 10 11 work you've done to get us to this point. We 12 look forward to continued participation going 13 forward. Almost two years ago a petition was 14 15 submitted to this Commission from Connect New York Coalition of consumers, labor 16 17 organizations, elected officials, state and local, from across the state. And the 18 19 petition asked the Commission to take a look at is the light touch, or I would call it 20 deregulation, working for all consumers and 21 for all business and all organizations, 22 23 schools, libraries, that need to have access towards, as you said, broadband and voice 24 25 telephony to protect public safety, economic

Proceedings - 2/24/16 - Panel 1 1 2 development, and all the benefits that come from broadband. And we have been looking for 3 answers to the kinds of questions that you're 4 looking at. And we want it to be a data 5 6 driven examination. 7 The data, quite frankly, is hidden or not available. But when you look at the 8 data and look at is the deregulation, is the 9 competitive framework working for all people 10 11 in the State of New York, you see that there 12 is a vast divide. And while many people are using their cell phones, that's not a 13 substitute for a wire line connection. 14 You 15 need to have a wire line connection in order to have the kind of connectivity to do your 16 17 homework, apply for a job, access the vast information on the Internet. 18 19 I'm going to cite just one statistic that shows why you need both a wire 20 21 and a wireless. The FCC, as this PSC concluded that these are not substitutes, 22 23 these are complementary. And they looked at 24 the survey. People with home wire line 25 broadband used 57 gigs a month. People with

Proceedings - 2/24/16 - Panel 1 1 2 smart phones use 1.9 gigs a month. In other words, if your kid is going to be doing their 3 homework, if you're looking for a job and have 4 to fill out job applications, if you're 5 6 uploading your photos, if you're downloading 7 videos, and multiple people are doing that in the home at the same time, or at school, or in 8 the library, you can't rely just on a smart 9 So we can't start with that chart that 10 phone. 11 you showed. We need to have wired 12 connections.

13 And what's happening in the state? Ten years ago Verizon announced we're going to 14 15 build an all fiber network and began to get cable franchises to create the economics and 16 17 the regulatory environment for investment in their all fiber network. And they began 18 19 redeploying many of our members -- some of whom I want to recognize as being so 20 interested in this issue, both for themselves 21 and their families and their neighbors, that 22 23 they've come here today. And so thank you 24 very much for being here, the real experts about what's going on in the telecom industry 25

Proceedings - 2/24/16 - Panel 1 1 2 here in New York -- began to be redeployed to building the FiOS. And then in 2010 there was 3 an announcement that the FiOS deployment was 4 going to stop. And the impact has been that 5 6 upstate New York, eastern Long Island and many 7 of our rural towns are dependent upon one provider or dependent upon Verizon's copper 8 network for their landline service. And this 9 landline copper network is deteriorating and 10 11 falling apart before our very eyes. And, as 12 we go on, I brought some pictures to demonstrate that, and I want to share those. 13 When we asked for some information 14 15 from the Commission and got a Freedom of Information, we looked at some of the data, 16 17 that unfortunately is hidden from public view. And this is the kind of information that needs 18 19 to be examined in an on-the-record evidentiary hearing, where we can cross examine each other 20 and really look at the information, and be 21 data driven and policy. 22 23 Consumer complaints exceed the 24 PSC's benchmark every single month over the

past three years since 2012. Trouble reports

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Proceedings - 2/24/16 - Panel 1 1 in wire centers, half of them exceeded PSC's 2 3 benchmark. Even for the small group of customers called core customers, low income, 4 disabled, elderly, for whom there's reporting 5 6 of out-of-service recovery within 24 hours, 7 even there the benchmarks aren't met about a quarter of the time. So something is 8 seriously wrong. And this needs to be 9 examined. 10 11 But the light touch deregulatory 12 approach is not protecting these customers. 13 And without competition and, as we know, competitive markets drive investment where you 14 make the most money. It's the responsibility 15 of this Commission to ensure that everybody is 16 17 protected and has access to quality communications. So if competition is in the 18 19 lucrative markets, and we know even in some places that isn't true, the City of New York, 20 where the FiOS build has not met the franchise 21 obligation. But certainly it is the 22 23 obligation of this Commission to collect the 24 data and examine whether the current light touch policies, which we believe are not 25

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28 Proceedings - 2/24/16 - Panel 1 1 2 working, are protecting everybody in New York. 3 MR. McGOWAN: We'll come back to -let's complete our run through the panel 4 Let me -- thank you, Deb. 5 first. 6 Bob Puckett. 7 MR. PUCKETT: Thank you, Peter. Ι just feel like I have to say while I'm up 8 here, could the secretary please read the next 9 item on the agenda. 10 11 (Laughter). 12 MR. PUCKETT: Anyway --MR. McGOWAN: 13 You are it, Bob. MR. PUCKETT: Thanks. And thanks 14 15 for inviting me. Just a little bit of background. 16 17 Peter mentioned the New York State Telecommunications Association. I'll turn on 18 19 the mic. We've been around since 1921. Peter mentioned that we represent a lot of the 20 smaller companies upstate, which we do. 21 But in full disclosure mode, Verizon is a member 22 23 of NYSTA as well. 24 Many people here today are thinking 25 of, you know, incumbent telephone provider, we

Proceedings - 2/24/16 - Panel 1 1 2 are talking Verizon. Well, there are 40 of 3 them across the state. Many upstate, there's one downstate, Fishers Island Telephone 4 Company, serving Fishers Island. Just to put 5 6 in perspective, there's more than just Verizon 7 in this state. And our association is made up of incumbent providers as well as competitive 8 local exchange carriers. We have about 45 9 carriers in total as members of the 10 11 association. And basically our incumbent members, I can't read the chart, but it's the 12 red line there that's going south very 13 quickly. So let's put that all in a context 14 15 while we're here.

Have consumers benefited from light 16 17 touch regulation, you have to look at that in terms of are we talking about ILEC regulation, 18 19 CLEC regulation, wireless regulation, cable TV regulation. We are all regulated differently. 20 Yes, there's been some, as far as the 21 incumbents go, there have been some modest 22 23 changes to the state of regulation of those 24 carriers. But in no way is it deregulation. 25 You can ask any of my members that, and they

Proceedings - 2/24/16 - Panel 1 1 2 will tell you why that is true. We think the state could do more for the incumbent carriers 3 in terms of reducing regulatory oversight. 4 Some of these carriers upstate, the 5 6 smaller ones, and I know today's discussion is 7 probably going to center around Verizon guite a bit, but these carriers upstate are as small 8 as serving 400 customers in some village 9 somewhere in upstate New York. So there's a 10 11 big vast system, ecosystem, out there. 12 Verizon is one big part of it, but there are many others. 13 And have consumers benefited, 14 15 certainly they've benefited. With the explosion of wireless, with the explosion of 16 17 cable, who is now the dominant provider of landline in New York, not Verizon, and not my 18 19 members, but cable. I'm sort of curious why cable isn't here talking about the status of 20 21 regulation, but that's another day, another issue. 22 23 So I think they have benefited. Ι think more can be done for reducing regulation 24 on the incumbent carriers. Similar to how 25

Proceedings - 2/24/16 - Panel 1 1 2 CLECs were treated, and we can get into that a little later in the discussion. But I just 3 want to start with that. So thank you. 4 5 MR. McGOWAN: Okay, thank you. 6 Susan. 7 MS. LERNER: Thank you, Peter. And my apologies, I'm suffering from a cold, and 8 I'm a very poor substitute for Richard 9 Berkeley on this topic, as I do not have a 10 11 tremendous depth of knowledge as he does on 12 the New York regulatory scheme. But I can speak from the perspective of an organization 13 which has been speaking to its members and 14 15 others across the state to ask them whether 16 they feel deregulation has been successful. 17 And certainly, you know, one of the concerns I think has been when we look at the chart, you 18 19 know, there are various statements from various entities at various times about the 20 21 need for an orderly transition which protects consumers. Our concern is that too much of 22 23 this discussion is focused on what's healthy 24 for the industry, and not enough is focused on what the Commission itself identified as its 25

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2	primary goal in deregulation, which was to
3	ensure that consumers receive the appropriate
4	protection, and that they continue to have
5	universal, at least access to universal
6	telecommunications services.
7	Our experience at Common Cause in
8	talking to our members is that if we start the
9	discussion from the consumer point of view, it
10	looks very, very different than what we've
11	heard from the industry representatives.
12	Consumers are not happy with the transition.
13	Consumers feel that they are out in a
14	cutthroat marketplace on their own. That they
15	are up against gigantic telecommunications
16	entities which make billions of dollars in
17	profit and are not responsive to their
18	concerns. Just take a look at any wireless
19	telephone contract and ask yourself whether
20	the consumer has any bargaining power
21	whatsoever.
22	When I went to law school eons ago,
23	there was something called the contract of
24	adhesion, and that was a one-sided contract.
25	The telecommunications contracts today are

Proceedings - 2/24/16 - Panel 1 1 2 perfect examples of that. And we believe that it would be appropriate for the Commission 3 actually to increase its regulation, 4 particularly increase its regulation of the 5 6 wireless market because of the chart that we 7 have been shown. Consumers really have no idea what they are exchanging when they go to 8 wireless or go to VOIP. I'd like to suggest 9 that in certain cases, we don't have the 10 11 statistics but certainly we are hearing from people, consumers are making that switch not 12 voluntarily at all. They're making the switch 13 either because of the degradation of the 14 15 legacy copper system, or because they have been given some package by the cable industry 16 17 which seems to be economically driven from their point of view, but of course, as we 18 know, these entry packages sunset out, and 19 prices then go up. 20 21 If you ask consumers are the two --

are the three services equivalent, do they provide the same telecommunications basic service, they will tell you no. Yet the basic service definition here is unchanged and is

Proceedings - 2/24/16 - Panel 1 1 2 based around a wired service. As perhaps it should be. Perhaps what we would like to see 3 in the marketplace is that the wireless and 4 cable competitors begin to provide some of the 5 6 services which we find in the wired system 7 which are essential to consumers that we are hearing from. 8 So from a consumer point of view 9 they feel lost. They feel that the 10 11 marketplace is not serving them. They feel it's not providing clear information. 12 They feel that the services are unreliable and 13 overpriced. And I think it's important that 14 15 we really pay attention to what consumers are telling us the result of deregulation is. 16 MR. BOZSIK: Peter, if I could have 17 18 an opportunity --19 MR. McGOWAN: Yes. MR. BOZSIK: -- just to comment on 20 a number of issues that were raised. 21 There was many issues that were raised by Debbie. 22 23 With all due respect, I disagree with pretty 24 much --25 Is your mic on? MR. McGOWAN:

Proceedings - 2/24/16 - Panel 1 1 2 MR. BOZSIK: Yeah. Pretty much 3 everything you had mentioned, and I'll get into a couple of those issues in a minute, but 4 to save time for the purposes of this panel I 5 6 won't address every issue. But I think that what we have to do is focus on what is the 7 customer preference. Not necessarily whether 8 or not a wireless provider is providing all of 9 the services, all the functionalities that a 10 11 wire line company provides to its consumers. It's whether or not consumers are getting the 12 13 services that they want. And I think the information that we have, the statistics that 14 15 we have would show consumers are leaving wire line and are migrating over to wireless or 16 17 voice service clearly underscores the 18 importance that consumers are making 19 intelligent decisions on the voice provider of their choice. Recent information shows that 20 about 50 percent of voice customers are 21 cutting the cord. 22 23 Now, let's just talk a little bit 24 about what -- I mean, we got into this issue

of deregulation. But, like Bob was saying,

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Proceedings - 2/24/16 - Panel 1 1 2 we're not at a point of deregulation for wire line. And I think the Commission and staff in 3 their study acknowledged that. As I mentioned 4 earlier, there have been some steps 5 6 acknowledging that the market is competitive. 7 But what's important to understand is that Verizon is providing outstanding service 8 quality to the customer -- to its customers. 9 Let's take a look back and take a 10 11 look at the customer trouble report rate. The 12 customer trouble report rate, which is, you know, how many customers are reporting any 13 given service outage of any given month, 14 15 clearly shows that the service quality is getting better over the course of the past ten 16 17 years. The trend shows improvement. In fact, we are well below the Commission's objectives 18 19 set for that customer trouble report rate threshold. The Commission has it at 3.3. 20 The company is providing service right now at 21 below two percent. So obviously that shows 22 23 that we're providing extremely reliable network. And in regards to the out-of-service 24 conditions, the record and the information 25

Proceedings - 2/24/16 - Panel 1 1 2 shared with staff, that obviously is public, clearly shows that we are doing an outstanding 3 job in providing good service to our 4 5 customers. Thank you. 6 MR. McGOWAN: Thank you. All 7 right. I want to just try to drill in a 8 little bit. The question is difficult because 9 the question that we're trying to pose is does 10 11 the system, does the system that we're using 12 provide benefit to a broad array -- a broad array of customers. And I acknowledge that we 13 have to ask a corollary question, which is, 14 15 does the system that we're using also provide adequate protections to vulnerable -- to 16 17 vulnerable consumers, consumers who may need protection more than others. And I want to 18 19 just try to drill into one -- one fact, because -- well, if the question I'm asking, 20 21 though. The question --MS. LERNER: Yeah, but that's not 22 23 the statutory standard. It's not 24 vulnerable -- it's not vulnerable consumers, 25 it's all consumers.

Proceedings - 2/24/16 - Panel 1 1 2 MR. McGOWAN: I know. I'm asking, 3 does the system that we're -- that we're using provide benefits to all consumers. Does it 4 provide benefits to a vast majority of 5 6 consumers. Does it provide benefits -- does 7 it provide better benefits than a regulatory approach. And to the extent we have to look 8 at more vulnerable customers, where does the 9 system not serve customers, and should we 10 11 focus there. So I want to just draw out one 12 13 question, one fact, because one of the outcomes that I think seems relevant is well, 14 15 how about penetration rates. Have penetration rates, the extent to which customers in New 16 17 York are actually on the phone system. That's one measure of whether the system is working 18 19 or not working. So the -- so that's -- normally I 20 21 think the penetration rate, as depicted in the Mayo study, and in part depicted in the staff 22 23 assessment, was reported based on federal data 24 in 2006 at 94.8, and in 2013 at 98 percent. 25 New York penetration rates. And both of those

Proceedings - 2/24/16 - Panel 1 1 2 penetration rates for New York were higher than the U.S. average. So is that a relevant 3 question to determining whether the system 4 that we're operating under is providing 5 6 benefits to consumers in that one dimension. 7 There are other dimensions, but I'm just trying to focus on one dimension. And one of 8 the reasons we're trying to focus on this is 9 because this is a point that PULP made in 10 11 their comments. But what they did was they used a statistic that was different than these 12 13 statistics. And I'm trying to reconcile the two statistics because I'm concerned that they 14 15 may have been using a statistic based on a survey that is not the most robust survey that 16 the FCC administers. 17 So is this metric, is this data 18 19 relevant to the question that we're trying to address here. Deb. 20 MS. GOLDMAN: I don't have the 21 number from the PULP study. Obviously it is 22 23 important to look at what is the

24 penetration -- the number of people that have 25 access to voice telephony, and that's

Proceedings - 2/24/16 - Panel 1 1 2 important, whatever the technology is. But, as you all said, broadband has become the 3 century's essential service. So the critical 4 question to be asking, in addition to who has 5 6 access to voice telephony, and within that, 7 even if we accept your number, what can we do to ensure that that two percent --8 9 MR. McGOWAN: Sure. MS. GOLDMAN: -- is not left out. 10 11 But the really critical question to be asking 12 is how well are we ensuring that across the state low income, rural throughout urban, 13 suburban, across the state people have access 14 15 to the telecommunications system of the 21st 16 century. And that's broadband. We have some 17 data. You've put some in your staff report. The FCC has collected data on that. The FCC, 18 19 for example, their most recent broadband report found that in rural New York, 17 20 percent of the population do not have access 21 to broadband at the speeds that the FCC 22 23 considers to be what is needed in today's 24 society and economy, which is a 25 meg down, 25 three meg up, 17 percent don't have access.

Proceedings - 2/24/16 - Panel 1 1 2 The FCC has also given national 3 statistics, I have not seen it in New York, and this gets to the regulatory question, of 4 how many people, even in urban areas of New 5 6 York, only have one choice for a broadband 7 provider. And if that is one choice, and as a result of the conditions that have been 8 imposed as part of the Time Warner - Charter 9 deal here by the PSC, that may be an expansion 10 11 of the broadband capability and access for 12 those who have access to a cable provider. But that's one provider, who therefore has no 13 competitive push outside of those conditions 14 15 to continue to innovate, to drive down prices, to improve service quality going forward after 16 17 those conditions run out. 18 So those are the kinds of questions 19 that need to be explored. And as part of this, and as we talked about in the Connect 20 New York petition, what needs to be explored 21 is the current definition that the PSC has of 22 23 basic telecom service, the appropriate

definition for the 21st century. And instead should that be expanded, and there is a legal

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Proceedings - 2/24/16 - Panel 1 1 2 basis for this, I know you'll explore it 3 tomorrow. MR. McGOWAN: Well, actually we're 4 exploring that question later today. 5 6 MS. GOLDMAN: Okay. 7 MR. McGOWAN: And let me note that, acknowledging your point about broadband, it's 8 a very important point, that is the principal 9 focus of panel two. 10 11 MS. GOLDMAN: And so I want to say that the statistic I often -- that is an 12 13 important statistic about the number of people, and critically young people, who are 14 15 wireless only, the statistic I really want to see is, of those who are wireless only for 16 17 voice, how do they get their broadband connectivity. So that does not mean that 18 19 there is no wire into the home, the school, the business, the library, the community 20 organization. And if this Commission goes in 21 a direction that says fine, we're okay if 22 23 people are getting their wireless doing their 24 homework off their smartphone standing outside 25 a McDonald's because they don't have home

Proceedings - 2/24/16 - Panel 1 1 2 broadband and so they have to get the Wi-Fi after nine o'clock at night out of McDonald's 3 to do their homework, what that's ignoring is 4 the entire economics that come from an economy 5 6 of scale and scope of ensuring that we don't 7 let our wired infrastructure deteriorate to such a point that there really is either no or 8 only one wired provider of robust broadband. 9 MR. PUCKETT: Peter, if I may. 10 11 MR. McGOWAN: Okay, yes, Bob, one 12 second. Let me just -- let me just alert the panelists that I had kind of allocated 30 13 minutes for this question, so let me just ask 14 15 you each if you have a concluding thought on this question, and then we are -- we should 16 17 move on so that we can get to the other 18 questions. Bob. 19 In general, consumers MR. PUCKETT: and the data that you look at does show 20 consumers are receiving the benefit of various 21 modalities and forms of telecom service. Are 22 23 there instances where somebody doesn't have sufficient broadband, are there instances 24 25 where maybe a CTERR -- CTRR level is down one

Proceedings - 2/24/16 - Panel 1 1 2 month, sure there is. It's not a black and white world out there. There's grey out 3 there. But overall, in general the data shows 4 quality landline copper, fiber voice service. 5 6 Again, we're talking about the red line here 7 and not the other lines. And does more need to be done on broadband? Certainly. But New 8 York ranks in the top ten states in terms of 9 availability, average speeds. And I suspect 10 11 most schools, libraries, places like that do 12 have wired connections, and yes, there may be areas of the state that still could have more 13 broadband in the very rural areas. But it's 14 15 getting there. And it's with programs like the Governor's \$500 million grant program that 16 17 will certainly move the needle up quite a bit. You've got folks out there in 18 19 upstate New York, I've got one company, the customer's 26 miles from the central office, 20 21 and they get six meg. I mean, and there are people that maybe get less. And then of 22

course the FCC keeps changing the definition
of what is broadband. It was what, 6.1, and
now it's 25.3, in the state it's a hundred --

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1 Proceedings - 2/24/16 - Panel 1 2 100.100? 3 MR. McGOWAN: A hundred four, I think. 4 5 MR. PUCKETT: I forget. 6 But progress is being made, and New 7 York is ranked in the top ten in the country in terms of availability. More needs to be 8 done, I'll put my hand up, and it's getting 9 done. And, you know, cable may be the only 10 11 provider in certain parts of the state. 12 Unfortunately, competition is hard when you've lost, what, 76 percent of your market share, 13 you know. It's a tough world out there. 14 15 MR. McGOWAN: Richard, anything further? 16 17 MR. BOZSIK: No. I mean, I really just echo what Bob said. You can't deny that 18 19 broadband service is important. I mean, obviously the question is how would broadband 20 be provided to consumers and what ultimately 21 consumer preferences are in the future, I 22 23 think we need to leave that up to the 24 consumer. Obviously with the, you know, the 25 deployment of additional technologies,

Proceedings - 2/24/16 - Panel 1 1 2 investments and so forth in the wireless market, I'm sure we'll be seeing additional 3 broadband services made available to consumers 4 at certain speeds that don't have it today. 5 But obviously, and putting aside 6 7 the jurisdictional issue, but putting aside that issue, I think it's important to let the 8 market run its course. Obviously what Bob was 9 saying, there are conditions associated with 10 11 the Time Warner - Charter merger, and 12 obviously with the Governor's broadband grant I'm sure we'll be seeing additional broadband 13 deployed in areas that are currently unserved 14 15 or underserved today. 16 MR. McGOWAN: Susan, a final 17 thought? MS. LERNER: Just to reiterate, I 18 19 believe that the chart there does not actually represent full consumer choice. I think that 20 many people have been forced off wire -- off 21 the wired system, at least we're hearing from 22 23 them vociferously. They feel that they don't 24 have the information necessary to make a choice if they do have a choice. And the 25

Proceedings - 2/24/16 - Panel 1 1 2 transition for -- from the consumer standpoint has been far from smooth. And we believe that 3 the PSC really needs to step in and to help 4 consumers understand what the marketplace is 5 6 and protect all consumers much more 7 vigorously. MR. McGOWAN: All right, thank you. 8 We are going to turn now to the 9 other questions, and I'm going to ask Michael 10 11 Corso to tee this next one up. MR. CORSO: So this is an 12 13 interesting segue actually to the question, which is very focused on the copper network. 14 15 And we'd be interested in understanding your 16 perspectives on the copper network's future, 17 its ability to meet customer demands and expectations, and its economic liability. I'm 18 19 going to start with Bob Puckett. MR. PUCKETT: Sure, sure, thanks. 20 21 Thanks, Michael. The issue with regards to copper is 22 23 the natural evolution of the network. We went 24 from open wire to copper many, many years ago, 25 probably before most people in this room. We

Proceedings - 2/24/16 - Panel 1 1 2 went from mechanical switching to computer controlled switching, then to digital 3 switching. So the networks evolved from one 4 technology to others over the years. We used 5 6 to have dial phones, then you had touchtone 7 phones. So this is just another progression to go from copper to fiber. Will copper be 8 around for a while? I think it will. 9 And while I'm at it, just to, you 10 11 know, give you some ideas, I did a quick 12 survey of some of the upstate members, the smaller companies, to try to get an idea of, 13 again, to the broadband issue that's been 14 15 raised, of what they're doing on copper with DSL. And their speeds are ranging from six 16 17 meg up to 50, and even in one case 100 meg over copper with DSL. Now, certainly distance 18 19 has a lot to do with that and bonding of cable pairs and things like that. But a number of 20 companies are in the 20 to 25 to 30 meg range 21 in providing DSL services. 22 23 What's interesting, and a number of the companies also do fiber to the home to 24 25 some extent, some more than others, and they

Proceedings - 2/24/16 - Panel 1 1 2 offer 100 meg or one gig. But the actual take rates of what's the most popular speeds on the 3 fiber networks are around the ten to 25 meg. 4 For DSL it's around the six to 12 megabit per 5 6 second range. So copper is still being used 7 out there. I imagine it will be there for a while. 8 9 Things -- some things -- fiber has been in the network for many years in the 10 11 backbone. A number of the companies have moved their D-SLAMS and for the DSL service 12 closer to the customers using fiber technology 13 to cut down on those copper -- and hopefully 14 15 not get too technical -- cut down on those 16 copper loop lengths to the customer so that 17 they can get the 25, 30 meg, megabits per second to those customers. 18 19 So I see copper as being around for a while. Some companies are transitioning to 20 21 fiber. Again, in a marketplace where you're less than 50 percent of the market with the 22 23 revenue flows being a lot different than they 24 used to be back in the monopoly days, it's

tough to invest in the networks. I mean,

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Proceedings - 2/24/16 - Panel 1 1 2 that's what you get with competition. So that's where we're at. 3 MR. CORSO: Okay. I am -- I'm not 4 going to -- I'm going to struggle not to ask 5 6 follow-up questions, to allow the panel to 7 speak and see if there's cross questions from each other, but I appreciate that answer, Bob, 8 thank you. 9 10 MR. PUCKETT: Sure, yup. 11 MR. CORSO: Debra. MS. GOLDMAN: Oh, I was going to 12 13 let Verizon answer first. 14 MR. CORSO: Oh, you were going to 15 let them? Okay. 16 MS. GOLDMAN: Let me say that --17 MR. CORSO: That's okay. MS. GOLDMAN: -- I'd like to hear 18 19 from Verizon first. 20 MR. CORSO: Sure, okay. Richard? 21 MR. BOZSIK: Thank you, Debbie. 22 Ι 23 didn't realize you were -- okay. 24 Well, look. I think it's -- I 25 think it's unrealistic to expect that the

Proceedings - 2/24/16 - Panel 1 1 2 twisted pair copper network is capable of offering the services that the fiber network 3 or a fiber coaxial network or a wireless 4 network is going to -- can provide today and 5 6 be able to provide in the future. But that 7 said, I mean, the copper network does indeed provide -- meet the basic needs of many 8 customers, on voice service as well as on DSL 9 service, broadband service that we provide. 10 11 You know, the long term economic 12 viability, which was part of the question that we wanted to talk about I think for this panel 13 is, it's really, it's sort of left up -- not 14 15 sort of, it's definitely left up to the customer's preference. And, you know, based 16 17 upon what we see obviously in the trends, it's extremely unlikely that the consumer 18 19 preferences for copper twisted pair services will grow. But that said, I mean Verizon, and 20 I'm sure the independent companies as well, is 21 doing everything needed to maintain the copper 22 23 network so that it continues to provide those 24 services to the consumers at very good service quality metrics, as reported to the 25

1 Proceedings - 2/24/16 - Panel 1 2 Commission. And one thing to keep in mind, you 3 know, we were talking earlier about these --4 about vulnerable customers. But the customer 5 6 trouble report rate which is provided to the 7 Commission provides the results for all customers in the State of New York. And based 8 upon that information, it clearly shows that 9 we're doing a very good job in maintaining the 10 11 copper network to provide the services that 12 customers expect from us. 13 MR. CORSO: Debra, are you good to 14 go now? 15 MS. GOLDMAN: Yeah, thanks. 16 MR. CORSO: Okay. I don't think this is 17 MS. GOLDMAN: 18 the place for us to have a debate about the 19 details of the service quality reporting. We've looked at the numbers. When you peel 20 back the numbers, I would not agree with your 21 assessment. But that's why we need a full 22 23 on-the-record evidentiary hearing, so that we 24 can really peel these back and look at has the change in the service quality reporting, both 25

Proceedings - 2/24/16 - Panel 1 1 2 what's required to be reported to the Commission and what's available publicly and 3 what the benchmarks are that were changed in 4 2009, 2010, have this protected consumers. So 5 6 that's why we need this on-the-record hearing. 7 Not for you and I right here to be saying my numbers show you this and my numbers show you 8 that. 9 MR. CORSO: So I'm going to 10 11 interject a second if I could. MS. GOLDMAN: Yeah. 12 13 MR. CORSO: So here's the -- I want to go back to the root of the question. 14 15 MS. GOLDMAN: I wanted to finish. MR. CORSO: Okay. 16 17 MS. GOLDMAN: Certainly we're in the midst of a technology transition. And CWA 18 19 has always been an organization, a union which recognizes that there is constant change in 20 21 the technology, and that that means changes both in the work we're trying to do and in the 22 23 services provided to consumers and to 24 businesses and organizations. And as Verizon first announced its roll out of its fiber 25

Proceedings - 2/24/16 - Panel 1 1 2 network over a decade ago, we understood that this was going to mean change in the kind of 3 work that our members do. But at the same 4 time, it enabled all kind -- it was the global 5 6 standard, the best in a network. And for that 7 we are very pleased that Verizon, our employer, took that step. 8 But then we began to look at where 9 it was deploying. And of course, first one 10 11 deploys where there is the opportunity to make 12 the most revenue. But then Verizon stopped. And so you have these situations, and I think 13 we've presented these to the Commission over 14 15 the years, of what I call the donut hole cities, Syracuse, Albany, Buffalo, where the 16 suburbs have FiOS and the cities do not. 17 The lower income, more heavily minority 18 19 communities do not. So for them, yes. Until there is a competitive alternative to cable 20 broadband, for them the only alternative is 21 the copper facility. And that facility is 22 23 deteriorating before our very eyes. 24 And I brought just a sampling of 25 pictures. And I want to emphasize, these are

Proceedings - 2/24/16 - Panel 1 1 2 20 pictures. I could have brought you thousands of pictures throughout the State of 3 New York of what Verizon is letting happen to 4 this network. A network that was at one point 5 6 built and maintained properly, off the backs 7 of ratepayer money. Dangling terminals. Double poles that are a danger to people's --8 to the public safety. Unattached facilities. 9 Open splice boxes. Open pedestals. This is 10 11 now -- plastic tarps are what technicians now 12 have on their trucks when they do a splice and need to cover something or see a pedestal. 13 And so you see exposure to the elements. 14 15 And what happens is, a customer will have noise on their line, have -- be out 16 17 of service when it storms, it rains, it snows. Call in or try and send that information in, 18 19 I'm not sure how online if they're out of service, but online. And if they get through 20 to the repair bureau and get an appointment, 21 when the line may dry it may test and be 22 23 scrubbed out of the system and not reported in 24 the trouble reports, by the way. This is 25 something that needs to be examined when we do

Proceedings - 2/24/16 - Panel 1 1 2 the on-the-record evidentiary hearing, what are the ways in which these trouble reports 3 actually get into the system. 4 But the condition of the network is 5 6 not being properly maintained. The staffing 7 is down 40 percent over the past ten years. Yes, we've lost a lot of landlines. 8 That number doesn't include the number of broadband 9 lines. But there's still a network that needs 10 11 to be maintained. And there aren't enough 12 people with enough time to do the proper 13 maintenance. So if it's appropriate, I'd like to 14 15 share these pictures. 16 MR. CORSO: Yes. MR. BOZSIK: Well, in the meantime, 17 if I could take the opportunity and address a 18 19 number of the issues that were just raised. First of all, and we've mentioned 20 our response to this in our comments. First 21 of all, what Debbie was saying about 22 23 deployment of FiOS in areas that are not low 24 income is absolutely false. We've deployed 25 FiOS throughout the City of New York. We've

Proceedings - 2/24/16 - Panel 1 1 2 deployed it in areas well below the average state income level, including areas such as 3 Poughkeepsie and Schenectady, New York, 4 Newburgh, New York. 5 6 As far as the maintenance of the 7 copper network, as I mentioned earlier, what's important to look at is the customer trouble 8 report rate. Not only that, and I know Debbie 9 mentioned earlier that PSC complaints are a 10 11 level set by the Commission. But one thing, just to be clear, that's a level set by the 12 Commission to do -- to be used for 13 14 commendations. And what the results clearly show is that the number of PSC complaints 15 going to the Commission have substantially 16 17 declined, or improved, let's say, over the course of the past several years. 18 19 All said, the results are out 20 there. It shows that the customer trouble 21 report rate has improved. It shows that we're doing a very good job of meeting the 22 23 Commission's expectations for vulnerable 24 customers. And it also shows quite clearly 25 that the number of PSC complaints has

Proceedings - 2/24/16 - Panel 1 1 2 substantially declined, improved, in other 3 words. MS. LERNER: So I'd like to comment 4 on this just very briefly. I do agree with 5 6 Mr. Puckett that there is still a continuing 7 need, a necessity for the copper network. Ιt is the backbone in some places, it is not 8 going away any time soon. 9 There are people we have spoken to, 10 11 consumers here in New York City, who have no 12 voice telephony available to them in the Borough of Queens that came to our Queens FiOS 13 forum. And they said we don't have any 14 15 choices. We can't even get phone service, we 16 can't get cell phone service, we can't get 17 copper wire service, we don't have any phone service. There are -- there's at least one 18 19 sitting Assemblywoman in Brooklyn whose telephone goes out, her district office 20 telephone goes out every time it rains. 21 Is she making regular complaints to Verizon? 22 Ι 23 expect so. But if they can't solve the 24 problem for a City Assemblywoman's district office, how likely is the ordinary consumer to 25

1 Proceedings - 2/24/16 - Panel 1 2 get results. 3 We have story after story. Which is why we believe, and I agree with Debbie, we 4 need an evidentiary hearing. It's easy for he 5 6 said, she said to go back and forth and back 7 and forth. But until we actually see some of the records under oath, it -- we are not 8 testing the industry's assertions in any 9 significant way. 10 11 And again, I can only speak from 12 the point of view of the consumers that we hear from regularly. They call us and say we 13 don't know what to do, we've called the PSC, 14 15 we've called our elected representatives, 16 we're being forced off copper, we're being 17 told that it's not going to be maintained, we have no choice but to go to FiOS. And I have 18 19 medical devices, I have other things -- these do tend to be older consumers -- that I want 20 21 to maintain through the wired system. And Verizon is telling me they will come in and 22 23 cut my wire and I have no alternative. And 24 they feel they're getting no assistance from 25 the PSC.

Proceedings - 2/24/16 - Panel 1 1 2 So over this lengthy, and it is 3 lengthy and it will continue to be lengthy, technology transition, somebody has to be on 4 the consumer side. That is the mission of the 5 6 PSC. And right now, unfortunately, I'm sorry 7 to say, the consumer feels you are not on their side. 8 9 So there definitely is a demand for copper. There will continue to be a demand 10 11 for copper. And that means an activist role for the PSC. 12 13 MR. BOZSIK: Michael, if I can take the opportunity and just respond a little 14 15 bit --16 MR. CORSO: Sure. 17 Thank you, Susan. Go ahead. 18 19 MR. BOZSIK: -- to what Susan had, I believe, spoke about, and that's associated 20 with -- I think the issue that you were 21 talking about is a situation where we have 22 23 both in place a copper network as well as a fiber network. And in those situations we are 24 25 migrating customers over from the copper

Proceedings - 2/24/16 - Panel 1 1 2 network onto the fiber network at the same price that they pay today, as well as they 3 were able to get the same services that they 4 currently purchase and are able to use over 5 6 the copper network. 7 (Cross talk) MS. LERNER: Well, that's not what 8 the consumers are telling me. They're telling 9 me that they're -- in one instance I've got 10 11 somebody who has several different phone lines 12 on the Upper East Side, he's just pulling his hair out. I've got people who have burglar 13 alarm systems or medical device systems, and 14 15 they say it's not comparable, that they don't 16 want to switch, they're being told they have 17 no choice. 18 MR. BOZSIK: Yeah. I --19 MR. McGOWAN: All right, guys, let me just say, you guys are in a conversation 20 21 right now which is where I want to go to the next question. 22 23 MR. BOZSIK: Okay. 24 MR. McGOWAN: So Michael --25 MR. CORSO: Yeah, that's great.

1	Proceedings - 2/24/16 - Panel 1
2	MR. McGOWAN: can I go to the
3	next question?
4	MR. CORSO: You can, absolutely.
5	MR. McGOWAN: Thank you.
6	The next question is kind of a
7	series of questions, but I think ultimately
8	this question is designed to get at the
9	following thought. And I'm focused primarily
10	on voice here. Recognizing that there's a lot
11	of convergence and there's a lot of packages,
12	but I'm kind of trying to focus here on voice,
13	just to unpack it. And the basic question
14	that I'm trying to get at is, is competition
15	placing pressure, and is it placing adequate
16	pressure, on Verizon in terms of forcing
17	Verizon to respond to and satisfy non-core
18	customers. So, so let me start let me
19	start with the question, do non-core customers
20	throughout most of the state have sufficient
21	choice for voice products.
22	MR. PUCKETT: Yes.
23	MR. McGOWAN: Yeah, this could be a
24	one word answer.
25	Richard?

Proceedings - 2/24/16 - Panel 1 1 MR. BOZSIK: Definitely. I mean, 2 just take a look at the staff's assessment, 3 competitive alternatives. 4 MR. PUCKETT: Highlight voice, 5 6 connect voice, cable voice, over the top 7 voice, wireless voice, satellite voice. Yes. MR. McGOWAN: Deb? 8 9 MS. GOLDMAN: I'm thinking about the person who came to the legislative hearing 10 11 last week and described that yes, she had choice if she was willing to spend, I believe 12 it was \$10,000, for a line extension. And in 13 other words, it depends where you live for 14 15 voice. 16 But I would go back to, again, 17 we're talking about the 21st century telecommunications system, and so we need to 18 19 be talking about choice for robust broadband as well as for voice. 20 MS. LERNER: Well, I think I've 21 made it clear that I don't believe that the 22 23 different forms of telephony -- telephony are 24 comparable, that there are trade-offs. And I 25 don't believe that the consumer is getting

Proceedings - 2/24/16 - Panel 1 1 2 enough information to make that determination rationally. Certainly our experience on Fire 3 Island was that when people had no choice but 4 to go to wireless, they were infuriated. 5 And 6 there are various situations where consumers 7 do have -- do want to have a choice, and they are being forced onto wireless. 8 Again, I want to talk about the 9 idea of a orderly transition. I don't believe 10 11 that we are seeing that in the marketplace and 12 that's not the consumers' experience. MR. McGOWAN: Okay. So now let me, 13 I probably know the answer to this question, 14 15 but let me ask it anyway. Are wireless networks providing competitive pressures, and 16 17 are they seen by the marketplace and consumers as replacements for wire line networks. 18 19 Bob. Maybe. 20 MR. PUCKETT: It's a 21 customer by customer choice. MR. McGOWAN: Yeah, but what's the 22 23 data? 24 MR. PUCKETT: Well, my members --25 well, my members have differences of opinion

Proceedings - 2/24/16 - Panel 1 1 2 on the term substitutability. But it's a -well, there are what, 30 to 50 percent are 3 abandoning landlines completely, the younger 4 generation, I should say. I go to more 5 6 meetings with Millennials, I guess they're 7 Millennials, and none of them have wired services. None of them, not a one. It's 8 folks from our generation that still have 9 wired services. And I know we'll have 10 11 discussion about certainly a wired broadband connection. But as far as voice and 12 substitutability with wireless, it's a person 13 by person choice. So I don't think you 14 15 could -- you know, some folks take wireless for various reasons. And it's not always 16 17 based on service quality either or pricing or any of those factors. So I'll just leave it 18 19 at that. MR. McGOWAN: Richard. 20 MR. BOZSIK: Yeah. I think the 21 data shows that many consumers are deciding 22 23 that the wireless network provides the 24 services that they're looking for, and for 25 that reason they're switching over to a

Proceedings - 2/24/16 - Panel 1 1 2 wireless service, you know, especially for voice. The results show it's about -- right 3 now about 50 percent of consumers have cut the 4 5 cord. 6 I think the one thing which is 7 important, though, that there is a distinction between the services offered by wireless and 8 wire line and the networks themselves. 9 Because we can't forget that the wireless 10 11 network is dependent on the wire line network. 12 So when we talk about services, yes, I agree, services are definitively one hundred percent 13 competitive as far as I'm concerned, and the 14 15 results clearly show that customers are making that decision on their own to switch. 16 MR. McGOWAN: 17 Deb. The evidence in the 18 MS. GOLDMAN: 19 FCC's most recent broadband report provides powerful evidence that there is a difference 20 between wire line and wireless in the eyes of 21 consumers. I already mentioned the capacity 22 23 or the amount of information that people 24 download on their smartphones, about two gigs 25 a month, versus on their home broadband --

Proceedings - 2/24/16 - Panel 1 1 2 excuse me, their home broadband, their wired broadband, which is about 58 or 60 gigs a 3 month. So there's a huge difference in 4 5 capacity. 6 There's a huge difference in price. 7 What with the pricing models for wireless and data caps, people cannot afford to be using 8 wireless for the kind of robust broadband 9 connectivity that we want for kids to do their 10 11 homework, for people to apply for jobs, et cetera. So there is definitely a difference 12 between wire line and wireless. 13 And I appreciate a lot the point 14 15 you made that between your smartphone and the cell tower it may be wireless, but after that 16 the entire network is a wired network. 17 And there can be vast economies of scale if 18 19 there's a wire to support that wire cell tower can be a basis for then building out and 20 extending robust into neighborhoods. 21 I wanted to mention one other point 22 23 that hasn't come up yet in the discussion. And that also is the way in which the --24 25 Verizon has been reporting its expenses and

Proceedings - 2/24/16 - Panel 1 1 2 its revenues in its annual reports to the Commission. And this is relevant to your 3 question in the sense that based on the way 4 those numbers are reported, Verizon has a 5 6 bottom line which shows that it has 7 significant losses in its local service, which would be its POTS, plain old telephone 8 service, wire line local service. But if one 9 looks and digs beyond that bottom line, there 10 11 are lots and lots of questions that come up as 12 to whether the way Verizon is reporting its 13 expenses between that expense that would need to be spent to build out the wire to the cell 14 15 tower or to the business park, the segment that is the unregulated revenue, and then the 16 17 segment that is the plain old telephone service, whether the way it's allocating its 18 19 corporate overhead, whether the way it's allocating its marketing expense, for example, 20 in 2014 Verizon booked about \$150 million in 21 marketing expense for plain old telephone 22 23 service, and it made me ask when was the last 24 time anybody saw an ad for voice wire line service from Verizon. So there are a lot of 25

1 Proceedings - 2/24/16 - Panel 1 2 questions. 3 Is there a misallocation of expenses going on in these annual reports? 4 Ι can't answer that question. The data that we 5 6 have is very high level. And I'm not making 7 an accusation here. But I am definitely raising questions. We have looked at the 8 numbers. And there are very intriguing 9 questions. If 14 percent of Verizon's wire 10 11 line revenue comes from New York, then why is it that 14 percent, or somewhere in that ball 12 13 park, of its \$2.8 billion operating profits don't come from New York? Instead, you see a 14 15 bottom line which shows a \$2.8 billion loss. A lot of intriguing questions that really beg 16 for the kind of examination that would happen 17 in an on-the-record hearing. 18 19 MR. McGOWAN: Are you suggesting 20 that Verizon wire line is over-earning? 21 MS. GOLDMAN: No. I'm suggesting that Verizon wire line -- that Verizon is 22 23 misallocating expenses to the bucket in the 24 financial reporting that this Commission requires, and does provide to the public, that 25

Proceedings - 2/24/16 - Panel 1 1 2 it is misallocating the expenses, to load expenses onto the local service, as opposed to 3 expenses that could be allocated to the 4 unregulated services; and therefore, then 5 6 Verizon is able to come and say well, local 7 service is unprofitable. I am not saying that this is the fact. I am saying there are 8 9 intriguing questions that need to be explored. MR. BOZSIK: Peter, if I could just 10 11 very briefly comment. I know we are taking up a lot of time on certain issues. 12 13 MR. McGOWAN: And it's not really 14 the question that I was posing. 15 MR. BOZSIK: Yeah, but let me just, I feel -- I feel obliged to comment on it. 16 17 The methodology that's used to allocate these costs are consistent with the 18 19 FCC's practices on doing so. We're in compliance with the FCC's directives 20 associated with that. 21 Now, in regards to our income, our 22 23 income that's reported to the Commission is at 24 a net level. That includes regulated and unregulated services. The focus needs to be 25

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71 Proceedings - 2/24/16 - Panel 1 1 2 on the bottom line of the company. 3 Thank you. MR. McGOWAN: Susan, you had a 4 5 question. 6 MS. LERNER: Yeah. I did want to 7 say that I do agree --MR. McGOWAN: The question is about 8 whether -- whether there's -- whether 9 non-core customers have a choice. 10 11 MS. LERNER: Well, we -- I actually wanted to talk about --12 13 MR. McGOWAN: Yeah. 14 MS. LERNER: -- the question is 15 whether wireless network is a suitable 16 replacement. 17 MR. McGOWAN: Right. MS. LERNER: -- for wire line, and 18 19 I do agree with Mr. Puckett. I've had numerous conversations with Millennials who 20 have switched to wireless and said oh, and 21 then I found out I couldn't get X, Y or Z, but 22 23 I've already switched. So I think there is a 24 great overlap, but it's not an entirely one 25 hundred percent transition.

Proceedings - 2/24/16 - Panel 1 1 2 And again, I'm back to the consumer doesn't really have the information to know 3 what they are giving up. Somebody who moves 4 into a building where they can only use the 5 6 door buzzer through wire line has to get a 7 wire line, even if they have a wireless phone. Somebody who wants to have a burglar alarm 8 system in their home may need to get a wire 9 line system. And it may not be available to 10 11 them, as I've said. So I think you have to take a look 12 13 at the question of yes, there's a great overlap in the services, but there are areas 14 15 where there isn't overlap, and there's very little information. And, as far as we can 16 17 tell, no competition to make up that gap. Which is really surprising to me. If the 18 marketplace is so vigorous, why are there not 19 creative people who are trying to invent 20 wireless forms of the servicing different 21 medical devices that right now you can only 22 23 service through your wire line phone. Wireless connectivity for burglar alarms. 24 Might it have something to do with the fact 25

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Proceedings - 2/24/16 - Panel 1 1 2 that the wireless system currently is just not as reliable as the wired system. So I think 3 there needs to be more inquiry and I think 4 there needs to be more information to 5 6 consumers. 7 MS. ZIBELMAN: Peter, before we move on can I -- and I'm sorry I'm late, but I 8 do have a question for the panel. 9 MR. McGOWAN: That's Audrey 10 11 Zibelman. MS. ZIBELMAN: 12 Yes. 13 So, first of all, I appreciate everyone being here. And Susan said something 14 15 that intrigued me, and I would be really -- if you haven't pursued it before, I would like to 16 17 pursue it. If you have pursued it before, just if I could get a brief answer. 18 19 And Susan, you made a point, you said that -- during your conversation you said 20 something about the fact that we need an 21 orderly transition. And I was hoping that we 22 23 could -- you could expand really on your 24 concept of what an orderly transition from copper to X would be. And I'd also think it 25

Proceedings - 2/24/16 - Panel 1 1 2 would be useful for us to hear what you think that X is. Is it broadband, is it -- you 3 know, what is -- what's the future. Because 4 that's a little bit I think what the 5 6 Commission is looking to grapple with. Ι 7 think we all agree, you know, changes occur, change is occurring, there are needs that are 8 being unmet, maybe not everyone agrees, but 9 there's certainly allegation that there are 10 11 needs that are being unmet. And that's one of 12 the reasons what we are looking at is exploring what are the unmet needs. But 13 what's your -- what's your view, and I'd be 14 15 interested to hear, you know, actually from all the panelists if you were to, sitting on 16 17 this bench versus that bench, what would you 18 be suggesting we do? 19 MS. LERNER: Since I opened that.

Well, I think I've mentioned I think that at a minimum the various providers, and certainly the providers who are offering a non wired service should be providing disclosures of some sort as to the difference between their service and the wired service. So most

Proceedings - 2/24/16 - Panel 1 1 2 people, I believe, who are switching their phone service to VOIP, for instance, are 3 probably not aware that, unlike the wire line 4 system, in an emergency when the power goes 5 6 out the phone is going to go out. I'm old 7 enough to have lived through several blackouts here in New York City. And the one thing that 8 was working in 1977 when I had a babe in arms 9 in the blackout was my phone was working. 10 11 That is not the case anymore with wireless or with VOIP, and I think people don't really 12 think about that. And the services which are 13 supported through the wired service that are 14 15 not supported on broadband -- on wireless. And also the fact that when you switch from a 16 17 copper legacy wire to a FiOS wire, the power requirements are different and your phone may 18 19 go out in times that you're not expecting it 20 to. 21 So I'm not suggesting that there

22 shouldn't be a switch, but I think right now 23 the consumer is not given information to make 24 an informed choice or at least to know what 25 they're getting into when they make that

Proceedings - 2/24/16 - Panel 1 1 2 choice. So at a minimum I think that that's 3 necessary. And I think that there needs to be 4 some controls over the situation that I was 5 6 just going back and forth with the Verizon 7 representative, who basically says that at a certain point Verizon makes the decision for 8 the customer. We have a legacy system and a 9 FiOS system, and we are turning off your 10 11 legacy system. You have one month or two months until we come and we are just going to 12 cut the cord. That should be regulated in 13 some way. What kind of advance notice does 14 15 somebody get if they are being forced to switch as opposed to actually making the 16 choice. So those are two basic things that I 17 18 would suggest. 19 MS. GOLDMAN: Chair, thank you very much, that's really a great question. And 20 obviously we are in a period of transition. 21 And the question is, in the old days, in the 22 23 monopoly days, there were abilities to ensure

25 everybody was going to benefit at some point.

that as we moved to new technologies,

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Proceedings - 2/24/16 - Panel 1 1 2 And now those levers are diminished in a competitive environment. 3 But the question is -- and the FCC 4 has been coping with this as well in their IP 5 6 transition dockets. And one of the things 7 that the FCC did first was they said there are four principles that are the fundamentals of 8 our communication policy, universal service, 9 public safety, consumer protection -- what is 10 11 the fourth. I can't believe I can't remember it. But there's a fourth in there. 12 13 MS. ZIBELMAN: Hey, it's a quiz, what's the fourth. 14 15 MS. GOLDMAN: Universal service, 16 public safety, consumer protection, and I'll 17 get you the fourth. And within that they then said what are the kinds of rules that we need 18 19 in order to protect those enduring values. They have, in their copper 20 retirement order, come up with certain rules. 21 Unfortunately, those rules have not yet taken 22 23 effect. But one of the key rules there is 24 that there has to be adequate advance notice 25 to customers when there is going to be a

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2	change in the underlying technology, not the
3	service, but the underlying technology that is
4	used. So that if a customer is, and this is
5	retail or wholesale, for retail, 90 days
б	advance notice, for wholesale, 180 days
7	advance notice. That's very important.
8	The other piece that's very
9	important is there's full transparency. And I
10	think we could talk about some programs right
11	now that Verizon operates in which it does not
12	give full transparency to what is really being
13	done when they are switching the technology,
14	underlying technology.
15	The other thing that the FCC has to
16	cope with and we're all having to cope with,
17	and I think it's a disaster waiting to happen,
18	is what happens now that we are moving toward
19	technologies that aren't dependent on line
20	power for public safety. The FCC's decision
21	was we'll allow this to happen as long as the
22	consumer is told once, only once, that if they
23	move to a VOIP system there's no line power.
24	And that once is when they order the service.
25	Now, when I'm on the phone with my

1 Proceedings - 2/24/16 - Panel 1 2 customer service rep and asking about all these complicated packages and what they cost, 3 one of the things I may not be really paying 4 attention to is that I'll be losing the line 5 6 power. And we recommended that they be told 7 multiple times, including when the technician comes out to do the change. That's when the 8 person is really paying attention. And that 9 they be told a whole range of issues so that 10 11 there's protection. The other thing the FCC -- and this 12 13 is something that the New York PSC could -that's a floor, what the FCC did. 14 15 Let me just --16 MS. ZIBELMAN: Yeah. 17 MS. GOLDMAN: -- make one more point on the backup battery. The FCC said the 18 19 consumer needs to be notified that a backup battery is available, notified once. But it's 20 21 at the consumer's expense. And there -something else the New York PSC could look 22 23 into is that the provision of the initial 24 battery and the battery packet, that 25 equipment, is paid for by the provider,

Proceedings - 2/24/16 - Panel 1 1 2 whether it's a what we used to call a cable company or what we used to call a telephone 3 company. So there are things that can be 4 looked into. 5 6 But the key thing in this 7 transition is that as we incent investment in upgrading networks, which is what we all want 8 on this panel, incentment for investment in 9 upgraded networks that provide robust 10 11 broadband, that until those individuals and 12 businesses and schools and libraries are part of the group that gets that investment, it 13 can't be a zero sum game. That they have to 14 15 continue to have access to competitive choice 16 of quality landline providers. MS. LERNER: And I failed to 17 mention the obvious, which is to examine 18 whether wireless, because it is now taking 19 such a large number of telephony clients, has 20 become a basic service. 21 MS. ZIBELMAN: So just if --22 23 because I'd like to hear the other panelists, 24 so just, Deb, just to be clear, what you're 25 suggesting is, is that we should look at the

Proceedings - 2/24/16 - Panel 1 1 2 FCC rules as a base, and that may be something that we could at the Commission level identify 3 as an area of standardization. 4 MS. GOLDMAN: As a floor. 5 6 MS. ZIBELMAN: As a floor. 7 MS. GOLDMAN: In some places they -- maybe what they're doing is adequate. 8 In other places, and I think the retirement 9 order has some pieces that you could see it as 10 11 a floor. And other commissions are looking at whether this is a floor. And then you have 12 huge areas of consumer education that really 13 are appropriate as well. 14 15 MS. ZIBELMAN: Rich, I'm interested 16 in your thoughts. But also --17 MR. BOZSIK: Yeah. 18 MS. ZIBELMAN: -- could you 19 specifically respond to the whole issue of VOIP and reliability and battery backup? 20 21 MR. BOZSIK: Yeah, I was going to, yes, definitely. 22 Debbie is correct, the FCC had a 23 24 proceeding on network transition, and in that proceeding came to the conclusion of certain 25

Proceedings - 2/24/16 - Panel 1 1 2 time frames to notify customers. It's also sort of part of a process on the retirement of 3 the copper cables. 4 (Pause in the proceedings for the 5 6 court reporter) 7 MR. BOZSIK: What I was saying is the time frames that were determined by the 8 FCC in its recent decision. 9 There is, just so everyone is 10 11 aware, and Susan, perhaps this is more for you 12 and obviously for the chair, is that Verizon does transition customers from the copper 13 network to the fiber network, whether it be 14 15 because a customer may have service issues on the copper network and fiber is available, 16 17 we're restoring the customer service, the service, the same as we provided customers on 18 19 copper, we're restoring the customer service on fiber. In addition, there is an effort to 20 21 retire copper cable and certain -- copper cables in certain wire centers, and in that 22 23 effort we are reaching out to consumers and 24 advising them of the time frames needed, consistent with the FCC's docket. 25

Proceedings - 2/24/16 - Panel 1 1 2 Just talking a little bit about the battery backup. In the situations where 3 Verizon identifies that the problem is with 4 the copper network and we have fiber 5 6 available, we're migrating the customer 7 service onto the fiber network and we're offering the customer a battery backup at no 8 additional charge. They get the same service 9 that they have from us. We need to install 10 11 fiber and we provide them a battery backup. The same is true for this network 12 13 migration effort that we have underway. It's more of a proactive effort to reach out to 14 15 consumers and move them over to the fiber network. In that situation we provide them a 16 17 battery backup. And I think worth noting is the far majority of consumers that are moved 18 19 over to the fiber network are given a battery backup that lasts 24 hours, which far exceeds 20 what the FCC's standard was in their decision. 21 MS. ZIBELMAN: But to pick up on 22 23 Susan's point, and just -- I think you answered it, but is that -- and then I'll 24 25 stop -- but I'm just curious. I mean, if we

Proceedings - 2/24/16 - Panel 1 1 2 say -- we can all agree there can be an orderly transition and that the substitute 3 for, and that's why I don't know, for copper 4 may be a broadband, FiOS, some other landline, 5 6 not necessarily wireless in and of itself, and 7 then my question is, if that's the Commission's determination, we can have an 8 orderly change, then the discussion is, is if 9 you're going to substitute one for the other, 10 11 what will be the kind of the requirements, the 12 rules of the road, the rules of engagement to say to go from one to the other you have to be 13 able to offer X, Y, Z. And I think, you know, 14 15 questions like notice information, what's equivocal, is that something that I guess all 16 17 of you would feel like that would be a useful exercise? Because it seems like the FCC 18 19 started to go there but doesn't -- didn't really define, you know, how do we -- how do 20 we get from here to there without disruption. 21 MR. BOZSIK: What I think is 22 23 important to note is that the service that the 24 customer currently purchases, assuming they're 25 on copper, when they're moved over to fiber,

Proceedings - 2/24/16 - Panel 1 1 2 they get the exact same service. It's just provided over a different means. So for 3 argument's sake, the customer has a tariff 4 service, fully regulated service today on 5 6 copper. We'll do the migration, we'll switch 7 them over to the fiber network, the customer pays exactly the same price, has the exact 8 same services that they purchased, and it's 9 still a regulated service. 10 11 COMMR. SAYER: Rich, what about medical devices and burglar alarms? 12 13 MR. BOZSIK: Yes. They work. 14 MS. GOLDMAN: I think --15 MR. PUCKETT: I think what this shows is education. And I think that is a 16 17 role the PSC has always had and I think it should continue. 18 19 Chairman, you weren't here earlier when I was suggesting, we were talking about 20 the state of regulation, and from the 21 incumbent carriers' perspective, you know, the 22 23 Commission has made some modest changes in 24 light of the competitive environment we're in. 25 I'd be the first one to say, and I sit up

Proceedings - 2/24/16 - Panel 1 1 2 here, and listening to some of this discussion it sounds like some people miss the good old 3 monopoly days where the command and control at 4 the Commission orders Verizon you shall do 5 6 FiOS to a hundred percent of your customers 7 across the state. Well, we're in a competitive environment now. Everybody has 8 been screaming for that for years, policy 9 makers, consumers. We're there now. And so 10 11 things have changed. And we can't go back to 12 the monopoly environment. Why would we want 13 to regulate -- expand regulation to now include all these modalities that have grown 14 15 from nothing to 20 million customers, or cable now being the dominant provider of landline in 16 17 New York, is simply in my mind crazy thinking. And I know it's tough, and we all agree there 18 19 are certain situations that we need to take care of on both sides of the debate. But 20 having said that, the last thing we need is 21 thinking in terms of treating the providers in 22 23 the state as if it's still a monopoly 24 marketplace, and I'm sorry. 25 MS. GOLDMAN: You're absolutely

Proceedings - 2/24/16 - Panel 1 1 2 right. And I really sympathize with the challenge that you're discussing, which is, in 3 this environment how do we ensure that the 4 transition occurs in a way that some people, a 5 6 significant portion of people, are not worse 7 That should be the standard. And the off. evidence we think is that right now there are 8 a significant number of people in this state 9 who have -- do not have good choice for robust 10 11 broadband. And that's the challenge. How do we address that. 12

13 In terms of your question, one of the things I struggled with in writing our 14 15 comments to the FCC, and finally it came into my head, we need to differentiate between a 16 17 change in technology which delivers the same or superior service, and a change in 18 19 technology which delivers different and potentially inferior service. And it's this 20 basket when there -- which can sometimes 21 result not just in affirmative action but it 22 23 can also be a result of inaction. So not 24 keeping up when the only landline competitor 25 is a copper network. Not properly maintaining

Proceedings - 2/24/16 - Panel 1 1 2 and repairing it year after year after year, is not incenting investment and upgrading to a 3 next technology, and it's leaving people in 4 those areas with inferior service. That's the 5 6 real challenge. There is de facto abandonment 7 going on right now, and how to address it is really the issue. 8 MS. LERNER: And we're not 9 suggesting a return to the monopoly situation. 10 11 But we are asking for a reality check on the situation in which most consumers find 12 themselves in, and that is they are at the 13 mercy of a duopoly between two gigantic 14 15 companies, feeling that they have no recourse, 16 and that state government has basically left 17 them out on their own. And that's why we feel that there needs to be a more proactive, 18 19 pro-consumer stance. Okay. Let me try --20 MR. McGOWAN: 21 one of the things that I'm hearing here and that I've observed as I've tried to get ready 22 23 for this is that the powering issue is a 24 critical issue, people care about that. It's 25 pretty clear to me that the bottom line is the

Proceedings - 2/24/16 - Panel 1 1 2 systems that we're gravitating to, consumers are having to -- they're becoming much more 3 reliant on the commercial electric system. 4 And I think it's true that some of them may 5 6 not know that. Some of them may know that and 7 are accepting it. But it seems clear that we have to clarify what are the policies that 8 companies are actually using as they're 9 migrating to voice in terms of backup power, 10 11 and we have to help customers understand and 12 then give them ways of responding to their needs if their need is I want to have -- I 13 want to have some protection from an 14 15 electrical system that goes out. Relatedly, it's been very difficult 16 17 I think to keep track of the evolution of interoperability with these different systems 18 19 with different devices and different things that are being used in terms of alarm systems, 20 in terms of medical devices. And I think we 21 need to gather some more data on that and try 22 23 to understand how these systems do or do not 24 interoperate with some of these devices, and 25 how will those devices that are being, you

Proceedings - 2/24/16 - Panel 1 1 2 know, produced in the marketplace, are either migrating themselves or are not migrating 3 themselves. I'm not sure what we do with 4 that, but we clearly need to learn much more 5 6 about that so that customers can become better 7 educated. So I think I want to go now, 8 Michael, if you could help me with a couple of 9 charts, I know you guys said you weren't going 10 11 to get into data, but I still want to -- I think an important question that we're trying 12 to focus on here is to what extent is the 13 regulatory system that we are now operating 14 15 under, which is a light regulatory touch, especially for non-core -- oh, okay, all 16 17 right. I go to -- I'm looking for the CTRR. 18 Just keep going? There we go. 19 Again, the question that I'm trying to explore here is to what extent is 20 21 competition placing pressure on Verizon to response to customers' needs in non-core 22 23 situations. I think I'm hearing some people 24 say not much, but I'd like to hear Verizon's 25 response to this.

Proceedings - 2/24/16 - Panel 1 1 This is the chart of CTRR, which is 2 3 an overall measure of reliability. I think this comes out of Verizon's statewide look at 4 CTRR. And this is the rate of customer 5 6 reported troubles on the network. Again, this 7 is statewide. I think it's more interesting to look at this on a regional basis. But this 8 I think is showing whatever the trend is. Let 9 me -- this --10 11 MS. GOLDMAN: Could you -- it's 12 hard to see. Could you tell us --13 MR. McGOWAN: Yeah. MS. GOLDMAN: -- what the red and 14 15 the blue --MR. McGOWAN: The blue --16 MS. GOLDMAN: Go back to the other 17 18 one. 19 MR. McGOWAN: Yeah. This is -- I believe this is the rate of troubles per I 20 think hundred customers. 21 MR. BOZSIK: That's a different 22 23 graph, Peter. 24 STAFF MEMBER: You've got to go 25 back one more.

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Proceedings - 2/24/16 - Panel 1 1 2 MR. McGOWAN: Oh, this is out of 3 service, okay. So there. Okay, so this is the rate. And in 4 general that line is kind of like the 5 6 regression line. The blue line is the 7 regression line. It shows kind of an average, if you will. And we see that it's about two 8 9 percent. So I think roughly two percent of the access lines there's a trouble. I think I 10 11 calculated this once, and that produces 12 roughly 46,000 troubles per month, which the 13 company then has to respond to. A certain percentage of those are out of service. 14 Ι 15 think it's roughly 80 percent of the troubles end up being an out of service condition. 16 17 So typically the Commission uses 3.3 as a gauge for how many central offices 18 19 are meeting the CTRR rate. So the Commission doesn't use this particular line as a metric. 20 But I think it's a good way of depicting what 21 the network is producing in terms of how --22 23 how many times are troubles being generated on 24 the system. So that's the CTRR. 25 And I wanted to just compare this

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Proceedings - 2/24/16 - Panel 1 to what staff had used in its assessment, which was a similar depiction of this but it's a rolling twelve month average. So if we go back, we see that there are some spikes. I think, if I remember correctly, some of the spikes are around giant storms like Sandy, where you have a huge increase in the number of troubles that have to be then responded to. So when you do this on a twelve month rolling average, it gets a little bit more smoothed out.

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13 And the reason I wanted to put this up here is because when staff did its 14 15 assessment, it only had it through a certain timeline, so I wanted to make it more current 16 17 and see where that line was trending, and we see that. I think it was trending in a 18 19 particular direction at the time because it was still being influenced by the increase in 20 troubles from Irene and Sandy. And we now see 21 this beginning to come back down. 22 23 So that's an important measure that

we've always used. I think it's still an important objective piece of data that we have

Proceedings - 2/24/16 - Panel 1 1 2 to analyze and see what it means. 3 Oops. And then I think another important, 4 but not the only piece of data, is the extent 5 6 to which, when there is a trouble, how well 7 does the company respond to that trouble to clear the trouble. So this is a measure of 8 the extent to which these troubles are cleared 9 in a 24 hour period. And again, the 10 11 Commission has a regime that measures this and enforces this for core customers. This is 12 showing all customers, so it's core and 13 non-core. The objective that the Commission 14 has set forth is it should be at 20 percent. 15 So we see that this data for all customers is 16 17 well above -- at the most current point, is well above the 20 percent number. 18 19 So again, I think it might be useful to look at this also on a regional 20 basis, because this is statewide, and I think 21 it's useful to break this down into regions. 22 23 I couldn't do it today because there are certain confidential issues. 24 25 But Rich, let me turn to you and

Proceedings - 2/24/16 - Panel 1 1 2 say what would your answer be to the question is Verizon responding to customers' concerns, 3 or how is Verizon being responsive, is 4 competition providing enough pressure on 5 6 Verizon to respond to customers' concerns. 7 MR. BOZSIK: You know, I think it's important to, and if I can, just address one 8 issue that Debbie had raised earlier about 9 this term de facto retirement. I think the 10 11 information in that first chart that you were 12 showing on the customer trouble report rate is 13 a clear indication that the company is by no means having a de facto retirement of the 14 15 copper network in process. Keep in mind, and we provided this information in our comments, 16 17 that the company has spent about five and a half billion dollars on the copper network 18 19 over the course of the past seven years. Some of it capital, some of it expense dollars. 20 Now, as far as meeting the 21 customers' expectations, you can clearly see 22 23 by the customer trouble report rate that we're 24 exceeding the metrics that were established by the Commission in the rate of return 25

1 Proceedings - 2/24/16 - Panel 1 2 regulation era. I mean, that was decades ago, right. The whole idea behind establishing 3 these metrics was to ensure that the company 4 was providing good service quality to its 5 6 consumers while at the same time was able to 7 get a guaranteed rate of return. Well, the one component stopped 20 years ago, and that 8 was the guaranteed rate of return issue, and 9 we can get into that as much as we want. 10 But 11 the reality is that we are providing better 12 service today than we have in the past. And that trend shows improvement over time. 13 So you asked me whether or not I think 14 15 competition is playing a role? Yes, of 16 course. Now, if we want to talk about this 17 other chart, what this shows is that overall 18 19 the customers that do experience an out-of-service condition, one thing to keep in 20 21 mind, right, what we are talking about is only a fraction of a fraction of the customers who 22 23 have, first of all, reported a service issue,

which has gotten smaller and smaller over

time, and what are talking about here is how

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Proceedings - 2/24/16 - Panel 1 1 2 well we're doing in restoring their service within 24 hours. And basically what this 3 shows is that about 70 percent of the time 4 we're doing it, okay. With an understanding 5 6 that I think we have to fall back to what the 7 Commission determined in its service quality improvement plan, that there are indeed 8 competitive alternatives for the far majority 9 of customers. The focus needs to be on those 10 customers that the Commission considered 11 vulnerable. The focus should be on how well 12 we're doing on meeting that objective for 13 vulnerable customers. All said and done, I 14 15 think we're doing an outstanding job of meeting overall out-of-service conditions in 16 the State of New York, and that information 17 clearly shows that it's improving. 18 19 MR. McGOWAN: So let me ask others to weigh in on the question of whether 20 competition is having the desired effect on 21 service quality performance. 22 23 MS. GOLDMAN: This again 24 underscores why we have to be having this discussion in the context of a full 25

Proceedings - 2/24/16 - Panel 1 1 2 evidentiary hearing, where there is discovery, where there is cross examination. 3 We got information in response to a 4 Freedom of Information inquiry that provided 5 6 us data about trouble reports. And I'm 7 looking at our analysis of that data showed that -- and one should -- go back to the 8 trouble report chart. This is an aggregate of 9 all central office entities in the state. 10 So that individual central offices can be missing 11 the trouble report. But if there are some 12 that are making it, that can smooth out those 13 that are not. And so one really needs to look 14 15 at what is -- and this is what used to be happening under the old rules -- what is 16 17 happening in each area served by each central office. So that one has a sense of where are 18 19 the areas that are not getting the proper maintenance, repair, investment. 20 When we looked at that, we found 21 that, on the aggregate, Verizon central office 22 23 entities missed the PSC statewide trouble 24 report benchmark in eight out of twelve

This was through 2015. We got new

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months.

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2	data last week to update it. And with the
3	update we found that between January 2012 and
4	December 2015, Verizon missed the trouble
5	report benchmark in more than half of the
6	reporting periods.
7	But if you then go and look at
8	central office by central office, there the
9	numbers were quite astounding. Verizon
10	central office entities missed the PSC
11	statewide customer trouble report benchmark in
12	22 out of 41 months. And I'm looking through
13	my notes. Verizon central office entities,
14	each individual one between January 2012 and
15	May 2015 missed the benchmark over a thousand
16	times.
17	Then we looked at the current
18	system to address when there are missed
19	benchmarks. If Verizon misses a benchmark in
20	three out of five months, it must file a
21	service improvement report, an SIR, and say
22	what it's going to be doing to address the
23	problems. And we then looked at the record of
24	these SIRs. And in multiple times Verizon
25	would miss have to file one of these

Proceedings - 2/24/16 - Panel 1 1 2 reports, and then the next five month period file another report, and then the next five 3 month period file another report. So these 4 are not proving to be an effective way to 5 6 ensure the proper response. 7 Now, we can go back and forth about our numbers. And of course what is the 8 statement, you know, data, data, data, and we 9 can tell different stories. This is why we 10 11 need to be looking at this really in the context of a full on-the-record evidentiary 12 hearing. For example, the OOS information 13 that you just provided, even in response to 14 15 our Freedom of Information we were not given 16 data about OOS, about -- OOS, I'm sorry, 17 response, service response intervals for non-core customers. We weren't given this. 18 19 So I can't sit here now and give you any response to that chart. I'd like to. I hope 20 21 it's accurate. MR. McGOWAN: This chart was 22 23 actually provided in Verizon's comments, I believe. 24 25 MR. BOZSIK: It was. It was.

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Proceedings - 2/24/16 - Panel 1 1 2 MS. GOLDMAN: Okay. 3 MR. BOZSIK: I think it's important 4 to put things in perspective. 5 MS. GOLDMAN: But I haven't seen 6 the data. 7 MR. BOZSIK: Yeah, sure. MS. GOLDMAN: The chart might have 8 been provided, but if I don't see the data, 9 the raw data, I cannot say -- I hope it's 10 11 accurate. Of course we want customers to be 12 getting good service. I hope it's accurate. 13 MR. BOZSIK: Yeah, let me just chime in, if I may, for a second. There's a 14 number of things that Debbie had raised 15 which -- which don't tell the entire story. 16 First of all, Debbie, I'm sure you 17 know you have access to the customer trouble 18 19 report rate for all of these wire centers. The number of what you referred to 20 21 as SIRs have shown clear improvement over the course of the past several years. With the 22 23 results for last year being at the lowest level as far back as I can recall. 24 In 25 addition, you know, this whole idea with

Proceedings - 2/24/16 - Panel 1 1 2 number of SIRs that we've reported, I mean, you're giving a raw number but you're not 3 putting it in perspective. For instance, in 4 the comments that you filed, I think you said 5 6 that we missed it 252 times and we had to file 7 an SIR. But what you failed to mention is how many opportunities there could have been to 8 file an SIR. And in that situation it was 9 over 22,000 individual SIRs that could have 10 11 been filed. In other words, we didn't file in over 90 -- or about 99 percent of the time. 12 Look, the data, the data -- the 13 lead organization has this information. 14 15 They've seen it, it's right here before us. You have access to the public information. 16 17 And it clearly shows that we're doing a very good job on providing excellent service to our 18 19 customers. Now granted, there may be 20 21 situations, we all understand there may be situations that it takes longer to repair 22 23 customer service. Understood. We try to resolve that customer service as best we can. 24 25 And obviously in a competitive market we have

Proceedings - 2/24/16 - Panel 1 1 2 to try to achieve that. That said, given the information that we see before us, the trends 3 clearly show that overall the service quality 4 is getting much better. 5 6 MR. McGOWAN: All right. We're 7 going to run out of time pretty soon here. And so I'm wondering which questions I can 8 9 still --10 MS. LERNER: Seven. 11 MR. McGOWAN: You want seven, okay, 12 let's go to seven. Okay, so should the Commission's definition of basic service 13 requirements be modified. I didn't bring the 14 15 definition with me, it's been around for a long time. It basically spells out the 16 17 features that a phone service should have, like dial tone, access to 911, I think access 18 19 to long distance, et cetera. 20 So Susan, do you want to speak to 21 I bet you do. that? MS. LERNER: I do. We do believe 22 23 that the basic service requirement should be examined and should be modified, because it 24 25 really is set for a technology in a

Proceedings - 2/24/16 - Panel 1 1 2 marketplace that is not current. And so I think that it's exactly the kind of open 3 discussion which the PSC should be having. 4 Ι didn't prepare for this panel, I didn't come 5 6 with a list of things which I think should go 7 off or go on, but I do believe that it is past time for the PSC to look at its definition of 8 9 basic service. MS. GOLDMAN: I'll be brief. 10 Yes. 11 You need to add data transmission at a 12 designated speed capacity to the basic service definition. 13 MR. BOZSIK: Well, I'll add to 14 that. I agree that it needs to be revised. 15 Let's not forget the definition of basic 16 17 service was established by the Commission in the mid-nineties. Lots of things have changed 18 19 since then. And I know the Coalition made a filing that was asking for the inclusion of 20 976 fax machines, a number of other issues. 21 Ι mean, look, the world has changed, I think we 22 23 have to accept that. There's a lot of things that were included in this definition. 24 For 25 instance, directory listings that are not of

Proceedings - 2/24/16 - Panel 1 1 2 importance to consumers today, and we can clearly see that by the fact that consumers 3 are switching over to different technologies, 4 wireless in particular. You know, directory 5 6 listings is a perfect example, as well as 7 operator assistance calls. That stuff was all in the definition back in the 1990s. Twenty 8 years later the world has changed. I think we 9 need to cut back on that definition. 10 11 MR. McGOWAN: Bob, do you want to? MR. PUCKETT: Yes. Obviously some 12 folks here would probably want to add to it, 13 some folks would like things removed. I think 14 15 locality charges, I thought the PSC eliminated 16 those 15, 20 years ago, if I'm not mistaken. 17 So I'm not sure of the relevancy. And so there certainly is a debate here of what 18 19 should be on it. With regards to the broadband speed 20 issues, I will just defer that to the legal 21 panel later on. 22 23 MR. McGOWAN: Okay. So let me --24 let me kind of wrap up here by just asking the panelists whether there is -- is there a 25

Proceedings - 2/24/16 - Panel 1 1 2 question that you think we should be addressing that we didn't address? 3 COMMR. SAYER: And could I add to 4 Is there specific action that you're 5 that? 6 recommending that the Commission should take 7 that you haven't discussed yet. MR. PUCKETT: There are actions, I 8 think they could -- well, there's certain law 9 changes that we've advocated for that would, I 10 11 think, help the PSC. I mean, some of the laws 12 that have been talked about were passed in 1910 and 1911, I mean, when we had telegraph 13 service, and they're still on the books. 14 15 We're still, the incumbents are regulated. Ι quess -- I quess all regulated carriers are 16 17 covered by those laws. You know, for a lot of my members 18 19 some things. Less reporting perhaps. More flexibility on even basic service pricing, to 20 the extent your prices are below the statewide 21 benchmark, a number of my companies would 22 23 certainly be interested in. Again, if you have a benchmark and you deem that a just and 24 25 reasonable rate for the entire state, why not

Proceedings - 2/24/16 - Panel 1 1 2 allow flexibility anywhere below that benchmark, you know, whether it's a 3 competitive environment or not, and not having 4 to go through all those tests, and some folks 5 6 may not be aware of all of these things, but, 7 you know, those sorts of things. And we've talked to the Commission about them before. 8 9 MR. BOZSIK: Yeah, thank you. Ι mean, that's a great question, Commissioner. 10 11 I mean, I think the Commission has, and I'm 12 sure staff and staff's report accepts the fact that there's competitive alternatives for 13 voice customers. And I think the Commission 14 15 took the right steps to let the light touch regulatory approach flourish for broadband 16 services as well as for wireless. 17 I think what the Commission needs 18 19 to do is acknowledge that there's definitely competition in the voice market and take the 20 extra step needed to further lighten up the 21 regulatory requirements on the wire line 22 23 providers. I mean, the reality is, a lot of 24 the regulations that were established were 25 established when we were and Bob's companies

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were in a rate of return regulation with no
competition. The world has changed, without
question the world has changed. And we've
seen a huge decline in the number of access
lines that we provide service to.
With that all said, I think what
the Commission needs to do is exactly what it
did for wireless and for broadband, is to take
a step back and let the market run its course.
Ultimately consumers will decide what's
what best fits their needs. Now, granted,
there may be an opportunity for the Commission
to become involved in the future. But only if
there's a failure in the market should the
Commission exercise its regulatory authority.
That's my feeling.
MR. PUCKETT: If I could, before
you move on, Gregg, one more item I had
forgotten, I mentioned there are certain laws
out there that obviously impact the way you
have to operate. And one item I missed that I
think is critical is this outdated concept of
getting franchises from every municipality
where you want them provide video services. I

Proceedings - 2/24/16 - Panel 1 1 2 can go out there and build a broadband network or a voice network by filing a -- and maybe 3 not even with a broadband network but I can 4 get a CPC -- a CPC from the Commission, which 5 6 is a two page form, and I can build that 7 network anywhere, any time, serve any customer I choose. But then when I want to put a video 8 signal over that network, I then have to go 9 and negotiate with every village, town, 10 11 municipality in the state and then come to the 12 PSC and have them approve it as well. So it's simply an outdated model of regulation that 13 hopefully some day the laws can change to 14 provide a little more flexibility for that. 15 16 MS. GOLDMAN: We may be interested 17 in working with you on that. We do -- many of our providers 18 19 operate in a competitive environment. I think I would add to the comments that I have made 20 that we need to have an on-the-record hearing 21 looking at the state of telecommunication, 22 23 asking the kind of questions we've been 24 exploring here, looking at how can we really qo -- strengthen and go back to stronger sort 25

Proceedings - 2/24/16 - Panel 1 of a quality regulation. What I'd add to is it should be the same service quality regulation, public reporting, benchmarks, penalties that would apply to all providers, not just one segment of the industry. I think there we could find common ground. And to also reexamine the definition of basic telecom services. MR. McGOWAN: Okay. That's the end of panel one. We're going to take a break until one o'clock and resume with panel two, which is going to explore broadband issues. Thank you all very much. (Time noted: 12:20 p.m.)

111 Proceedings - 2/24/16 - Panel 1 1 2 CERTIFICATE 3 4 STATE OF NEW YORK) SS: 5 COUNTY OF ORANGE 6 7 I, KARI L. REED, a Registered 8 Professional Reporter (Stenotype) and Notary 9 Public with and for the State of New York, do 10 hereby certify: 11 I reported the proceedings in the 12 within-entitled matter and that the within 13 transcript is a true record of such 14 proceedings. 15 I further certify that I am not 16 related, by blood or marriage, to any of the 17 parties in this matter and that I am in no 18 way interested in the outcome of this matter. 19 IN WITNESS WHEREOF, I have hereunto 20 set my hand this 1st day of March, 2016. 21 22 23 KARI L. REED 24 25

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