

U.S. FEDERAL COMMUNICATIONS COMMISSION

+ + + + +

CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU

+ + + + +

NATIONAL HEARING ON THE RELIABILITY AND CONTINUITY OF COMMUNICATIONS NETWORKS

+ + + + +

TUESDAY
FEBRUARY 5, 2013

+ + + + +

The Field Hearing convened in the Alexander Hamilton U.S. Customs House Auditorium, 1 Bowling Green, New York City, New York, at 9:15 a.m.

FCC STAFF PRESENT

- JULIUS GENACHOWSKI, Chairman
- MIGNON L. CLYBURN, Commissioner
- AJIT V. PAI, Commissioner
- JESSICA ROSEWORCEL, Commissioner
- ROGER GOLDBLATT, Outreach and Policy Advisor, CGAB

PANEL ONE

- DAVID TURETSKY, Moderator, Chief, Public Safety and Homeland Security Bureau, FCC
- CLIFF ABBIO, Crown Castle U.S.A
- MICHAEL CORSO, Managing Director, New York State Public Service Commission
- SEAN KIELTY, Region II Emergency Communications Coordinator, Federal Emergency Management Agency
- PETER MCGOWAN, General Counsel, New York

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

State Public Service Commission
RAHUL MERCHANT, Chief Information and
Innovation Officer and Commissioner,
Department of Information Technology and
Telecommunications, New York City
JACK SCHNIRMAN, City Managing Director, New
York State Public Service Commission

PANEL TWO

SEAN LEV, Moderator, General Counsel, FCC
BRIAN ALLEN, Corporate Group Vice President
and Chief Security Officer, Time Warner
Cable
TONY BARDO, Vice President, Hughes Network
Systems (an Echostar corporation)
UPENDRA CHIVUKULA, Assemblyman, New Jersey
State Legislature
ED COMER, General Counsel, Edison Electric
Institute
JIM GERACE, Vice President State Government
Affairs - New York Verizon

ALSO PRESENT

DENISE L. PEASE, Regional Administrator, GSA

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

A-G-E-N-D-A

Welcome 4
 Administrator Denise L. Pease, GSA

Opening Remarks 9
 Chairman Julius Genachowski, FCC

Panel #1: Public and Private Responses to
 Superstorm Sandy 38

Moderator: David Turetsky, FCC

Panelists
 Sean Kielty, FEMA
 Rahul Merchant, Department of Information
 Technology and Telecommunications, New York
 City
 Cliff Abbio, Crown Castle USA
 Jack Schnirman, City of Long Beach, New York
 Michael Corso, New York State Public Service
 Commission

Panel #2: Assessing Network Resiliency -
 Lessons Learned from Sandy 99

Moderator: Sean Lev, FCC

Panelists
 Jim Gerace, Verizon
 Ed Comer, Edison Electric Institute
 Upendra Chivukula, New Jersey State
 Legislature
 Brian Allen, Time Warner Cable
 Tony Bardo, Hughes Network Systems

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 P-R-O-C-E-E-D-I-N-G-S

2 9:17 a.m.

3 MS. PEASE: Good morning, good
4 morning. Chairman Gena -- you know I
5 practiced your name and I'm a New Yorker so I
6 had this down pat even the first time I saw
7 it. But I guess my nerves are getting the
8 best of me. So Mr. Chairman, I'll get it
9 right when I introduce you. Commissioners
10 Clyburn, Rosenworcel and Commissioner Pai.
11 And all of you who have come here today for
12 this important hearing.

13 My name is Denise L. Pease. I'm
14 the regional administrator of the United
15 States General Services Administration and it
16 gives me great pleasure to welcome you this
17 morning to the Alexander Hamilton U.S.
18 Customs House.

19 I'm sure you couldn't help but
20 notice the magnificence of this facility as
21 you entered here today. Not only is this the
22 most beautiful structure in GSA's arsenal and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 I say that as the regional administrator but
2 it's also GSA's premier historic federal
3 building in New York City. But it is also
4 one of our nation's top 10 legacy buildings
5 in our national inventory.

6 I'll welcome you all to take a
7 bit of time today to explore and to look at
8 some of the magnificence of this building.
9 It was completed in 1907 and it was designed
10 by one of the United States' premier
11 architects Cass Gilbert. More famous for the
12 Woolworth Building here in New York just a
13 few blocks north of here and the United
14 States Supreme Court.

15 Just upstairs there's a
16 magnificent grand rotunda and with its WPA
17 frescoes and outside the large four seated
18 figures representing the continents that were
19 the work of Daniel Chester French, sculptor
20 of the imposing seated figure of Abraham
21 Lincoln in the Lincoln Memorial in our
22 nation's capitol.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Some of you may recognize we are
2 also very proud because the staircase was in
3 Black Swan. And those of you who watched
4 some of cable TV's Boardwalk Empire is also
5 filmed in this facility.

6 But the important thing, the
7 reason we're here today like most of our
8 neighbors in Lower Manhattan this historic
9 building also suffered from the ravages of
10 Storm Sandy. However, when you look at the
11 immense destruction of our greater community
12 we were lucky. And this building only
13 experienced some minor flooding in the sub-
14 basement and no significant damage to either
15 its structure itself or the mechanical or
16 electrical systems.

17 Nonetheless, along with much of
18 Lower Manhattan it was without power 6 days
19 following the storm, communication and heat
20 for 12 days. As a result it was the last of
21 our local federal buildings to resume
22 operation after Superstorm Sandy.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 This U.S. Customs House has often
2 been called the monument to commerce. If you
3 look on the facade in the grand rotunda in
4 the great hall you will see many design
5 motifs: shells, dolphins and more that pay
6 homage to this nation's seafaring past, to
7 the commerce trade that built the wealth of
8 our nation.

9 It was built at a time when radio
10 and television were emerging technologies and
11 even the rotary dial telephone was a new
12 idea. Today communications are integral to
13 the commerce and everyday life in ways that
14 were not even imagined back in 1907 and as
15 integral to commerce and life is today
16 seagoing vessels were back then in the early
17 days of our country.

18 So perhaps it's fitting that
19 these hearings following the storm that
20 finally brought the sea inside this monument
21 to seafaring trade takes place in this
22 auditorium. Certainly Superstorm Sandy

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 challenged all of us in so many ways. For
2 GSA and the rest of the federal agency
3 community the ability to maintain connections
4 and communications became all-important as we
5 worked on recovery efforts. Supporting the
6 needs of the Federal Emergency Management
7 Agency, our federal customer agencies and
8 getting our impacted facilities like this one
9 back up and operating again to continue to
10 serve the public.

11 So we are truly pleased to
12 welcome our colleagues from the Federal
13 Communications Commission here today as they
14 conduct these important hearings. Since he
15 was sworn in as its chairman in June of 2009
16 Julius Genachowski has focused the attention
17 of the Federal Communications Commission on
18 digital communication, particularly wired and
19 wireless broadband as well as advancing
20 modern technologies for public safety. Under
21 his leadership the FCC has become a model for
22 excellence in government. It gives me great

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 pleasure and I'm proud to introduce FCC
2 chairman Julius Genachowski. Mr. Chairman.

3 CHAIRMAN GENACHOWSKI: Thank you,
4 Administrator Pease. Thank you very much for
5 those remarks. Thank you for hosting us in
6 this wonderful historic building. Of course
7 right here at the heart of some of the
8 serious challenges of Hurricane Sandy.

9 This is the first of the FCC's
10 series of field hearings on the reliability
11 and continuity of communications networks.
12 There were many reasons to hold the first of
13 the Sandy hearings here in New York. I don't
14 know that this was the main reason but it's
15 true, this is where I'm from. I grew up on
16 Long Island. I went to high school and
17 college in Manhattan and worked here for many
18 years. In fact, one of my very first jobs
19 was working on an ambulance in New York City.
20 I know these streets, I understand how people
21 here suffered during Sandy. It's vital that
22 the FCC be part of the solution in this area

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 for the benefit of people who suffered in
2 this area and for the benefit of people all
3 over the country.

4 So thank you all for joining us.
5 Thank you to each of our participants. Thank
6 you very much to the New York and New Jersey
7 officials who demonstrated real leadership
8 during the storm and the recovery process
9 including Governor Cuomo and Christie,
10 Senator Schumer, Gillibrand, Lautenberg and
11 Menendez, Representatives Bishop, King,
12 Pallone and Sires and Mayor Bloomberg. A
13 number of those officials will have
14 participants on our panels today.

15 Thank you to my fellow
16 commissioners who are here today and to the
17 staff of the FCC's Public Safety Bureau led
18 by David Turetsky who organized today's
19 hearing. And our commission, our Public
20 Safety Bureau have been working for many
21 years to harness the power of communications
22 technology to make the American people safer

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 and more secure.

2 I want to offer special thanks to
3 all of the emergency personnel here today,
4 not here today who worked to help the victims
5 of Sandy get through the storm and help
6 communities bounce back. That includes both
7 state and local emergency officials as well
8 as recovery teams from communications
9 companies many of whom risked their own
10 safety to help others.

11 I saw on the way in here today
12 David Donovan who runs the New York
13 Broadcasters Association and he took a minute
14 to thank the FCC for the work that we did
15 helping them provide coverage in New York
16 granting what we call STAs, special temporary
17 authorities to keep signals up. We did this
18 for broadcasters, for mobile companies and
19 others. Also working around the clock to
20 facilitate fuel delivery. This will come up
21 over the course of the day. That was one of
22 the big issues that emerged over Sandy,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 making sure that fuel got to the places it
2 needed to get including antenna towers,
3 generators and news trucks as David reminded
4 me this morning.

5 Now, of course primarily today
6 our thoughts and sympathies remain with the
7 victims of this storm. Superstorm Sandy was
8 one of the most devastating natural disasters
9 ever to hit this region. It underscored
10 something important, how essential modern
11 communications like mobile and broadband have
12 become to our daily lives. They connect us
13 to family, to work, to emergency services.
14 And we sure notice when we can't get through
15 on our phones or connect to the internet or
16 get TV or radio news. That's true all the
17 time and it's especially true in times of
18 emergency, whether you're calling 911,
19 checking on the well-being of loved ones,
20 getting emergency information or just trying
21 to return to work in the days following the
22 crisis.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 It's true for mobile and
2 broadband, for broadcasting cable TV, for
3 radio. Each communication service provides
4 enormous benefits during times of emergency.
5 And we benefit from the multiple sources of
6 information and connectivity. And we also
7 know the costs of losing service.

8 In addition to illustrating the
9 essential role of communications services the
10 unprecedented storm also relieved challenges
11 that require a national dialogue on how to
12 ensure the resiliency of communication
13 networks and action to address communications
14 outages and the need for resilient
15 communications networks.

16 When the storm occurred the FCC
17 activated our Disaster Information Reporting
18 System in order to assess the state of
19 network outages and coordinate with FEMA and
20 state and local agencies on that.

21 The data we received soon after
22 the storm told us that about 25 percent of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 cell sites and cable services in the affected
2 10-state area were not operational. And of
3 course those figures were much greater in
4 areas of New York and New Jersey.

5 I visited New York shortly after
6 the storm and I saw firsthand the devastation
7 particularly here in Lower Manhattan. And
8 many of the challenges exposed by Sandy are
9 complex. An extremely important example, the
10 interrelation of our electric grid and our
11 communications networks, two critical
12 elements of modern infrastructure.

13 The fact is we rely on our
14 electric grids that power individual devices,
15 tower, antenna towers and other elements of
16 fixed and mobile communications networks and
17 power essential offices, switches and other
18 sophisticated equipment that connect it all
19 together. We may not know exactly what
20 caused the Super Bowl power outage on Sunday
21 but people from New York and New Jersey
22 already know the consequences of losing power

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 and the consequences of aging
2 infrastructures, like President Obama has
3 made modernizing American infrastructure a
4 national priority.

5 Our nation's communication
6 infrastructure is a vital part of our public
7 safety and national security. The inability
8 to communicate with family and emergency
9 personnel during a disaster is simply
10 unacceptable. We must meet this moment with
11 smart action from all sectors to assure the
12 communications networks are working when
13 people need them the most. Much has been
14 done, much more needs to be done.

15 At the FCC for example in the
16 last few years we've worked to drive massive
17 private investment in network infrastructure
18 to modernize networks and improve service.
19 Capital investment in U.S. wireless networks
20 has grown by over 25 percent annually since
21 2009 and total investment in wired and
22 wireless broadband infrastructure exceeded

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 \$60 billion last year alone making this one
2 of the largest sectors for private capital
3 investment in the U.S. economy.

4 Together with my fellow
5 commissioners we've taken steps at the FCC to
6 launch wireless emergency alerts to allow
7 local authorities to send warning and other
8 texts to people in affected areas, to
9 facilitate text to 911 mobile phones and
10 improve location accuracy for mobile 911 so
11 emergency personnel can more quickly locate
12 people in need.

13 Last month the FCC issued a
14 detailed report examining the failures of 911
15 communications after the derecho which caused
16 massive power outages across the mid-Atlantic
17 this past summer. A key takeaway from that
18 report was that many of the problems
19 encountered at that time could have been
20 avoided if known best practices had been
21 followed.

22 Today we focus on what we can

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 learn from Sandy, how we can ensure network
2 reliability when we need it the most. We'll
3 have two panels here this morning, the first
4 on public and private sector responses to
5 Sandy and the second on assessing network
6 resiliency - lessons learned from Sandy.

7 This afternoon we'll hold a
8 hearing in New Jersey with an additional two
9 panels, one on communicating during times of
10 emergency and a second on new ideas to
11 improve communication services. We'll be
12 having two additional hearings in other parts
13 of the country and we look forward to
14 learning from additional voices on the
15 critical questions. Throughout this
16 work we're focused on advancing four core
17 goals: improving network resiliency. How can
18 communications outages be prevented in the
19 first place? Improving restoration. When
20 outages do occur, how can network recovery be
21 hastened? Empowering at home. How can the
22 American people be better prepared to better

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 cope with disasters? And unleashing
2 technological solutions. How can new
3 technologies be harnessed to promote the
4 resiliency and restoration of communications
5 networks as well as emergency care and
6 response?

7 Our efforts are integrated with
8 the work of the Hurricane Sandy Rebuilding
9 Task Force led by HUD Secretary Sean Donovan
10 to make sure that all the communities
11 impacted by Sandy bounce back and are better
12 prepared in the event of future disasters.
13 Working together I believe we must and we can
14 improve the reliability of our communications
15 networks and enhance the safety of all
16 Americans.

17 So thank you for welcoming us
18 here to New York. I'm looking forward to
19 these panels. I expect this to be a
20 productive day. And let me now introduce my
21 colleague Commissioner Clyburn. Thank you
22 all.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 (Applause)

2 COMMISSIONER CLYBURN: Thank you,
3 Mr. Chairman. To our distinguished panelists
4 and to our audience good morning. Good
5 morning. Thank you. Thank you, Regional
6 Administrator Pease for your opening remarks
7 and on behalf of the Federal Communications
8 Commission I wish to express my gratitude to
9 the General Services Administration and
10 others responsible for making it possible for
11 us to hold this critical forum.

12 At the FCC we are afforded the
13 incredible privilege of having a front row
14 seat to some amazing developments in
15 information technology. And I can say
16 without any doubt that we have a lot to be
17 optimistic about when it comes to what the
18 communications industry can accomplish.

19 When we are hit with major
20 weather events such as Superstorm Sandy we
21 are humbled and are reminded that despite all
22 of these great advances we are still quite

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 vulnerable. Our thoughts and prayers remain
2 with all who suffered a loss of loved ones
3 and property during Superstorm Sandy.

4 I commend the efforts of first
5 responders as well as ordinary citizens who
6 demonstrated unprecedented charity towards
7 their neighbors and communities.

8 I was in Moncks Corner, South
9 Carolina -- yes, there's a Moncks Corner --
10 with family in September of 1999 during
11 Hurricane Hugo. I was balled up in a corner,
12 in a dark corner listening to the first trees
13 I ever loved being broken like toothpicks. I
14 sat in fear as my grandmother's tin roofs
15 from the barn, the smokehouse and part of her
16 own house were being pulled away by what at
17 the time felt to me like a huge, heartless
18 hand of a giant. So while the extent of
19 Sandy's power and destruction were an
20 unprecedented event for this region many of
21 us have firsthand felt the tragedy wrought by
22 natural disasters.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 We may not be able to prevent
2 them from occurring but what we can and must
3 do is improve our readiness. Throughout the
4 Sandy weather event we heard several reports
5 about how federal, state and local
6 governments as well as industry were engaged
7 in extensive coordination to restore
8 important services and infrastructure to
9 communities. And as communications
10 regulators we must do all within our power to
11 prepare our wireless communication networks,
12 911 systems and other infrastructure for
13 future weather or unexpected events that are
14 sure to follow.

15 So I applaud Chairman Genachowski
16 for his all hands on approach and for
17 recognizing and declaring early on that this
18 Commission would come to New York, New Jersey
19 and other parts of this great nation to learn
20 about the challenges we face when it comes to
21 the reliability of communications networks.
22 And I look forward to the panelists'

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 testimony and recommendations on these and
2 other related policy areas. Thank you very
3 much and again, good morning.

4 (Applause)

5 MR. GOLDBLATT: And now
6 Commissioner Rosenworcel.

7 COMMISSIONER ROSENWORCEL: Good
8 morning. I want to start by noting that my
9 grandfather began his career as a U.S.
10 Customs officer here in New York City. So
11 coming here to this place, this city and this
12 room feels a little bit like coming home.

13 And like my grandfather I am
14 privileged right now to have a life in public
15 service. And though I have only been at the
16 Federal Communications Commission for a brief
17 period of time since that time we have had
18 more than our fair share of natural disasters
19 including the subject of today's hearing,
20 Hurricane Sandy.

21 These events caused not only
22 immeasurable hardship on those affected, they

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 also wreak havoc on our nation's
2 communications systems. And while we may not
3 know with precision what the next storm or
4 disaster brings we do know that we must learn
5 from what came before. So it's my hope today
6 we can take away lessons and bring home facts
7 that will help us make our nation's networks
8 more resilient and the American people more
9 safe.

10 Now I make it a practice to visit
11 public safety communications facilities when
12 traveling around the country and I am
13 consistently amazed by the dedication and
14 resolve of the people I meet and their simple
15 everyday heroism. But without question the
16 most powerful visits I have made so far were
17 to areas recovering from storms.

18 Following this summer's derecho
19 storm in the mid-Atlantic I toured one of the
20 nation's most sophisticated public safety
21 answering points in Virginia. The director
22 of this center described an eerie quiet in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 the aftermath of this major storm as calls to
2 911 quickly and implausibly ceased. He said
3 he knew instantly something was wrong. He
4 was right and lives were put in danger as a
5 result.

6 And following this fall's
7 Hurricane Sandy I toured a telecommunications
8 central office in lower New York to see the
9 impact of the storm. In fact it's just
10 around the corner from here. Weeks after the
11 flood waters had receded from the streets the
12 subterranean rooms where our networks come
13 together were still damp. Technicians rushed
14 this way and that trying to make sense of an
15 impenetrable snarl of vines and the harms
16 done to so many submerged switches and
17 servers. I will never forget the post-
18 apocalyptic look of the facility.

19 It is only one image of a storm
20 in a storm with an infinite number of images
21 of horror. What I also take away from it is
22 an image of extraordinary hope. The sheer

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 energy and dedication of the New Yorkers
2 working to repair the damage was nothing
3 short of amazing.

4 Following Hurricane Sandy I also
5 visited several towns along the coast of New
6 Jersey. The storm surge propelled sand dunes
7 blocks beyond beachfront neighborhoods with
8 cruel disregard for cars and houses that were
9 in the way. A police chief in one town
10 described how other towns had the
11 communications knocked out for days. The
12 mayor and public safety official in another
13 described the disaster in chilling detail but
14 also noted that that without extensive
15 outreach early on including for broadcasters
16 and social media it could have been much
17 worse. So from your trials and hardships we
18 have an opportunity to learn.

19 We have an opportunity to
20 understand how well our 911 systems
21 responded. We have an opportunity to
22 understand if systems dedicated to police,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 fire and rescue officials performed or if
2 they fell short. We have an opportunity to
3 understand what public communication is
4 required in advance of a storm to help
5 residents prepare and get the information
6 they need to stay safe.

7 We also have an opportunity to
8 understand what it means when an increasing
9 portion of the population no longer relies on
10 traditional wire line phones. Today one in
11 three households relies exclusively on
12 wireless phones. Wireless phones and the
13 towers that serve them are dependent on
14 commercial power. What happens when the
15 power goes out? We know that after Hurricane
16 Sandy as Chairman Genachowski said one in
17 four wireless towers was out of service.

18 So how do we make sure that
19 backup power is where it needs to be and that
20 our carriers have access to fuel for
21 generators? And how do we make sure that
22 consumers are prepared too with backup

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 batteries and solar chargers?

2 So we had an opportunity to learn
3 from your stories so that we can wrestle some
4 good out of Hurricane Sandy. We need to take
5 your lessons and apply them more broadly
6 before the next storm hits or disaster
7 devastates.

8 So to our panelists you are
9 essential to this process. You will help us
10 build this record. You will help us
11 understand what happened and how public
12 safety, infrastructure providers and
13 government can come together to make our
14 communication system strong. Because we need
15 an honest accounting of the resiliency of our
16 nation's digital age infrastructure. And
17 with your help we are going to make our
18 networks more secure and all of us more safe.
19 So thank you to all for being here today and
20 taking part in this event.

21 (Applause)

22 COMMISSIONER ROSENWORCEL: Let me

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 introduce my friend and colleague
2 Commissioner Pai.

3 (Applause)

4 COMMISSIONER PAI: Thank you,
5 Commissioner Rosenworcel for that
6 introduction and thank you Administrator
7 Pease and the General Services Administration
8 for your hospitality. It's a privilege for
9 me and my colleagues to be here in New York
10 and we look forward to participating in
11 today's activities.

12 For me today's events are about
13 listening and learning. Through this field
14 hearing as well as others to come I hope that
15 we will gain a richer understanding of the
16 steps that we can take to improve the
17 performance of our communications networks
18 and to facilitate the timely transmission of
19 critical information during natural
20 disasters. Chairman Genachowski, thank you
21 for holding today's hearing.

22 Suffice it to say that there is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 much for us to learn. Our first job is to
2 figure out what happened during and after
3 Superstorm Sandy. How did people communicate
4 with each other? Did they use wire line
5 networks or wireless phones? How did they
6 receive information about the storm? Were
7 callers able to reach emergency services and
8 if not why not? Were emergency personnel
9 able to communicate with each other? Did
10 copper lines weather the storm best? Did
11 coaxial cable? Did fiber? Did wires
12 attached to poles perform better or worse
13 than those buried conduits? And after the
14 storm how did repair efforts proceed? How
15 quickly were networks restored? These are
16 but a few questions to which we need answers.

17 Once we've determined what
18 happened we then must take a lessons learned
19 and look to the future. Of course there are
20 some things that we already know. For one
21 thing we know that improving the resilience
22 of our communications networks should be one

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 of our major goals moving forward.

2 Americans or people who go to New
3 York City are intimately familiar with the
4 slogan too big to fail. Well, simply put our
5 communications networks are too important to
6 fail. That is especially true during natural
7 disasters because the ability to communicate
8 may be the difference between life and death.
9 So we must examine what can be done and must
10 be done to improve these networks in order to
11 minimize disruptions when disaster strikes
12 again as it inevitably will.

13 We also know that reliable power
14 is essential to communications during public
15 safety emergencies. Unfortunately during
16 Sandy persistent and widespread power outages
17 affected several communications networks. At
18 one point about one-quarter of cell sites
19 across 10 sites were out of commission and a
20 substantial portion of those outages resulted
21 from a loss of power.

22 Backup power can prevent networks

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 from failing but flooding will ruin even the
2 sturdiest diesel generator. Large stockpiles
3 of fuel in urban areas may not be practical.
4 And even the best battery or largest fuel
5 tank will eventually give out. So we also
6 need to ask what steps we can take to avoid
7 power outages in the first place and to bring
8 our communications networks back on the grid
9 sooner rather than later.

10 To do that we need to bridge the
11 communication gap between utilities and
12 network operators. In Sandy's aftermath, for
13 example, we have heard complaints that local
14 power companies did not coordinate with
15 network operators. If this is true it has to
16 change. These companies share poles and
17 conduits with each other and a coordinated
18 response to service restoration can bring all
19 networks back online more quickly and more
20 efficiently.

21 Disjointed service repair efforts
22 only prolong the time that customers left in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 the dark are cut off from communications.
2 And utilities and communications companies
3 need to start planning for the next disaster
4 now and looking at ways to harden their
5 networks to avoid future outages.

6 Another thing we know is that new
7 internet protocol-based technologies can make
8 communications more reliable for the public
9 during an emergency. Traditional 911
10 services while immensely valuable rely on
11 older copper networks and selective routers
12 to connect the public with emergency
13 personnel and collect the information that
14 they need.

15 Just last week I visited a public
16 safety answering point in Virginia. I heard
17 firsthand how a single point of failure took
18 down their operations last summer. That's
19 unacceptable. When we start deploying next
20 generation 911, all of this will change.

21 Pike County, Pennsylvania, a
22 short drive to New York City, 911 dispatch

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 moved into a state of the art facility last
2 year. A mere 18 days later Hurricane Sandy
3 struck. But Pike County 911 reported that
4 the new system held up extraordinarily well.
5 No outages occurred at that 911 center even
6 though Pike County itself was out of power
7 for almost a week.

8 One major reason that Pike County
9 like other next generation facilities employs
10 failsafes to ensure that emergency services
11 keep running. Fiber links the two Pike
12 County facilities allowing one center to take
13 over for the other in the event of an outage
14 or to handle overflow in mass call events.

15 Mark Fletcher, an expert on next
16 generation 911 services, recently pointed out
17 that if you call 911 during mass call events
18 you usually get a busy signal. But if you
19 hang up the phone and call your airline to
20 check on your flight you're going to get
21 through. That's because in the airline
22 industry among others people are already

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 taking advantage of technology that routes
2 calls to the call center with availability,
3 not just the closest one.

4 We need these kinds of next
5 generation systems. This will enable not
6 just new technology but enhanced coordination
7 and collaboration among public safety
8 officials across this country to ensure quick
9 and effective emergency response. That's why
10 operating emergency systems in next
11 generation 911 should be a top priority.

12 Yet another thing we know is that
13 our citizens may not need to contact
14 emergency personnel if they receive timely
15 thorough information over the airwaves. I am
16 especially looking forward to hearing from
17 broadcasters and others today about their
18 efforts to keep the public safe and informed
19 during a storm.

20 For example, New Jersey Governor
21 Chris Christie took to the airwaves on New
22 Jersey 101.5's Ask the Governor show to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 provide information and field questions from
2 listeners just as Sandy was making landfall.
3 I'm eager to hear about the efforts of other
4 broadcasters and local news teams during and
5 after the storm.

6 Finally, we know that the
7 emergency personnel and service staff who
8 worked the ground during Sandy deserve our
9 continuing thanks. We rely so heavily on all
10 of you for the thousands of thankless tasks
11 that you do every day. When things get tough
12 you make a sacrifice.

13 I was especially touched by the
14 story of an NYPD officer Artur Kasprzak who
15 was killed during Sandy while escorting seven
16 members of his family to safety in Staten
17 Island. My humble thanks go out to Officer
18 Kasprzak and to all of our emergency
19 personnel for their vital service to
20 communities across this country.

21 In closing I look forward to
22 learning and to listening today. The

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 witnesses we will hear from will help ensure
2 the Federal Communications Commission both
3 understands the problems caused by Superstorm
4 Sandy and has the information that it needs
5 to move forward and to make a difference.
6 Thank you to all the witness for coming and I
7 look forward to your testimony.

8 Finally, our colleague
9 Commissioner McDowell could not be here but
10 he does wish to participate by video. So you
11 will see a short presentation in a moment
12 along those lines. Thank you once again for
13 your hospitality.

14 (Applause)

15 COMMISSIONER MCDOWELL: First, I
16 apologize for not being with you today in
17 person. Congress recently asked me to
18 testify at a hearing regarding another
19 matter. That hearing is also scheduled for
20 today so unfortunately I must remain in
21 Washington.

22 In spite of my inability to be in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 New York this morning and Hoboken this
2 afternoon I'm very pleased that the Federal
3 Communications Commission is holding these
4 important hearings. And I thank my friend
5 and colleague Chairman Genachowski for his
6 leadership. We must all ensure that the
7 reliability of our nation's communications
8 networks in times of emergency is second to
9 none.

10 Although none of us can prevent a
11 natural disaster we can and must work
12 together to make sure that Americans are able
13 to contact emergency response services as
14 well as family and friends in times of
15 crisis.

16 I send my deepest condolences to
17 those of you who lost loved ones as a result
18 of Superstorm Sandy. And I thank the heroic
19 emergency teams who have been working
20 diligently in the recovery efforts which
21 unfortunately are still ongoing.

22 Sandy was a highly destructive

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 storm. As we all know when disasters occur
2 mobile and wire communications technologies
3 become literal life lines. But they also
4 create challenges. Therefore, in order to
5 plan for future emergencies I welcome the
6 opportunity to learn more about what went
7 right and what went wrong. Even though I am
8 not physically there with you today I will
9 study the important information we learn
10 today quite closely.

11 I look forward to continuing to
12 work with you as well as my colleagues at the
13 FCC and other government agencies on these
14 critical issues. Thank you.

15 (Applause)

16 MR. TURETSKY: Good morning. I'm
17 David Turetsky, chief of the Public Safety
18 and Homeland Security Bureau of the FCC.
19 Like the chairman my roots are here. I was
20 born in New York City. I grew up in New
21 Jersey and worked later on in life in New
22 York City while I lived there.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 We have a very distinguished
2 panel and I'd like to introduce them and
3 explain the procedure that we'll follow
4 today. The panelist bios are available in
5 materials that are available to you so I'm
6 not going to recount their very, very
7 impressive backgrounds in any detail.

8 And I'm going to ask each
9 panelist a question. They'll have up to 5
10 minutes to answer. Then we'll go to the
11 commissioners for another 5 minutes each.
12 And depending on where we are at that point
13 we'll either have some follow-up questions
14 from me or we'll be done.

15 We've also invited the panelists
16 to submit longer materials if they so choose
17 to the record so that they can have an
18 opportunity to elaborate even beyond what we
19 get a chance to cover in the questioning
20 today. Let me introduce the panelists and
21 then we'll come back and I'll ask a question
22 to each.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 First, Raoul Merchant. He is the
2 chief information innovation officer and
3 commissioner of the New York City Department
4 of Information Technology and Communications.

5 Next, Jack Schnirman is the city
6 manager of the city of Long Beach in New
7 York.

8 Next is Michael Corso. He's the
9 managing director of the New York Department
10 of Public Service and he's joined by Peter
11 McGowan who is the general counsel of the New
12 York Public Service Commission.

13 Next to him is Cliff Abbio of
14 Crown Castle USA where he's the vice
15 president of engineering and operations.

16 And finally Sean Kielty is the
17 Region 2 Emergency Communications Coordinator
18 for FEMA.

19 Thank you to this distinguished
20 panel. And now let's turn to Mr. Merchant
21 who's responsible for the New York City's IT
22 infrastructure and oversight of the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 implementation of technology initiatives.

2 And the first question is, Mr.
3 Merchant, can you please give us an overview
4 of the principal communications challenges
5 you faced that arose from the superstorm from
6 your perspective, the response and any
7 thoughts on how to enhance resilience and
8 speed restoration in the future?

9 MR. MERCHANT: Thank you, Mr.
10 Turetsky for the question and thank you,
11 Chairman Genachowski and commissioners for
12 hosting this hearing. And welcome to New
13 York.

14 We here at the Department of
15 Information Technology and Telecommunications
16 in New York manage all internal as well as
17 some parts of telecommunications in the city
18 of New York.

19 Hurricane and Superstorm Sandy
20 did significant damage to our external
21 communications in New York with internal
22 communications and other technology pieces

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 withstood the storm quite well.

2 As we watched on our offices --
3 from our offices in management as well as our
4 headquarters in Brooklyn we saw flooding of
5 central offices located in the same flood
6 plains in Lower Manhattan. We saw all of
7 this on public communication network. We
8 also saw quite a bit of fuel shortages to
9 power, some of the cell towers, antennas and
10 other areas.

11 Our most critical communications
12 system today, our wireless networks for us.
13 Wireless communication infrastructure,
14 fibers, consists of thousands of cell towers.
15 And we saw degradation as well as destruction
16 of about 25 percent of the capacity.

17 And the sources of this
18 degradation we thought was in three main
19 areas. Number one, damage to the backhaul on
20 which all the cell towers depend on operate
21 on a daily basis. Second was damage to the
22 critical electrical infrastructure that could

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 not allow the cell tower as well as the
2 backhaul to operate. And third was large
3 call volume.

4 So as the infrastructure was
5 concerned New York City operates on CITYNET
6 which is our own fiber. We also have our
7 wireless network called NYCWiN as well as our
8 own 800 megahertz and other data networks.
9 We prepared in advance for all possibilities
10 and were able to keep the infrastructure up
11 the entire time and after Sandy.

12 Over and above that we also
13 ensured that our main communication vehicles
14 which is our website and our data networks
15 were hardened before the superstorm arrived
16 which was nyc.gov, our main website. Our 311
17 network which did rely extensively on public
18 telecommunication network which we saw due to
19 the central office damage. We along with the
20 commercial network providers had to weed out
21 all of our call volume to our CITYNET and to
22 our central office in Brooklyn.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 And as I say the wireless
2 technologies, since we had hardened our data
3 wireless technologies we withstood quite a
4 bit of damage that came our way.

5 As we move forward and as we look
6 at the recommendations and as we discuss in
7 detail as we move forward during the
8 hearings. There are two main areas of
9 recommendation that I will look for. One is
10 of course is providing residencies -- in this
11 day and age of better technologies we should
12 be able to provide a longer battery life to
13 our cell towers and other significant
14 infrastructure.

15 And all the other resiliencies
16 that we should be able to provide. And the
17 main goal ought to be during the time of
18 emergencies and after that, our resident
19 citizens and our customers should have
20 available to them some way of communicating
21 with the governments, emergency officials and
22 the loved ones so that they can be helped in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 case of an emergency.

2 And second is providing
3 information. Just that regular utilities
4 provide information on when the
5 infrastructure is down and what can be
6 expected from the utilities. They should be
7 able to provide similar information on when
8 the telecommunications systems are going to
9 be up for our residents, citizens and our
10 customers. Thank you.

11 MR. TURETSKY: Thank you. I'd
12 like to turn now to Jack Schnirman who led
13 the hard-hit city of Long Beach on Long
14 Island throughout the storm as the city
15 manager.

16 Mr. Schnirman, what were the
17 communications issues caused by Superstorm
18 Sandy in Long Beach and are there unique
19 challenges that face local governments in
20 response and restoration of communication
21 services in their communities?

22 MR. SCHNIRMAN: Sure. Thank you,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Mr. Turetsky and thank you to the
2 commissioners for allowing us this
3 opportunity to speak in regards to the
4 devastation in Long Beach and other area
5 communities experienced in the wake of
6 Superstorm Sandy. We have quite a few things
7 to cover so I'm going to get right to it.

8 We were able to effectively
9 communicate and coordinate with our partners
10 on the governing side during, before and even
11 after the storm. This effective
12 communication produced an impressive array of
13 resources to assist our emergency response
14 efforts. In fact, one of the calls and one
15 of the last calls we were able to make in the
16 middle of the night resulted in Senator
17 Schumer securing a much needed generator for
18 our water tower to restore service.

19 Unfortunately, however, we faced
20 a variety of obstacles as we executed our
21 crisis communication plan. We found that
22 there is significant room for improvement

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 with regards to wireless carrier's
2 infrastructure and response.

3 Here are some of the challenges
4 we faced. Once the storm hit we lost power
5 and backup power critical infrastructure. We
6 had no access to computers, telephone, cable,
7 internet. In fact, all mobile communications
8 were lost.

9 Our communications redundancies
10 failed. The city possesses redundant
11 services as a contingency and if we lose one
12 we hope to have the alternate option
13 available but those all failed. Now, over 3
14 months later Verizon has still not been fully
15 reinstated. We're awaiting final restoration
16 of City Hall's fast lines.

17 We completely lost the ability to
18 receive 911 calls locally. 911 calls were
19 routed into Nassau County, routed through
20 Nassau County mobile command bus back to Long
21 Beach.

22 We sent personnel to Nassau

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 County Office of Emergency Management in the
2 wake of the storm for assistance and to pick
3 up 500 megahertz radios so we could
4 communicate with essential city personnel and
5 coordinate first responders.

6 Even with all these obstacles in
7 our way we were still able to coordinate with
8 government and that's the key. The
9 government sides worked. Unfortunately we
10 faced some obstacles restoring our
11 communications.

12 The lack of communication and
13 response from service providers was extremely
14 disconcerting. All cell towers in the city
15 were down during the storm and service
16 providers were nowhere to be found. We spent
17 over a week trying to obtain mobile cell
18 towers, our COW (Cell on Wheels).

19 Long Beach reached out to one of
20 the carrier's customer support lines,
21 explained the devastation and inquired about
22 the carrier deploying a cell on wheels. The

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 customer service rep replied, "You might want
2 to look that up on the internet. I don't
3 know what that is." Well, obviously
4 ironically we had no internet at that time.

5 We contacted each carrier
6 individually which was an incredibly time-
7 consuming process as we were constantly
8 passed along to different 1-800 numbers. The
9 city's IT department flagged down a Verizon
10 tech off the street to help us find out who
11 in Verizon could help me to get somebody to
12 come help us. And Verizon has a facility in
13 Long Beach and we were still unable to
14 receive assistance in a timely fashion.

15 We communicated with other
16 government entities and other private
17 entities we usually talk to. However, we did
18 not have a point of contact with the cell
19 phone carriers for emergencies.

20 The biggest issue with all these
21 facilities is that they must be equipped with
22 natural gas powered generators with automatic

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 transfer switches so they can be immediately
2 powered by the generator when the power goes
3 out.

4 Technological roadblocks hindered
5 our ability to get our information out to our
6 residents. We had communication with our
7 residents and it was difficult and yet was
8 our main priority. In a time of crisis it is
9 just so crucial to be able to reach your
10 residents and tell them that important
11 information to maintain a sense of calm and
12 order.

13 We did overcome our technological
14 limitations and executed our crisis
15 communications plan with a variety of
16 workarounds that perhaps we'll get to later
17 in this hearing.

18 But constructively going forward
19 we have nine quick recommendations to share
20 about how we can do a little better together
21 going forward.

22 Number one, going forward,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 communication infrastructure must be built
2 with resiliency. I look forward to getting
3 into that a little bit more in depth as we go
4 along.

5 Number two, it's crucial that
6 cell carriers with infrastructure maintain
7 contact data and emergency service for
8 themselves with municipalities.

9 Number three, it's got to be
10 easier to obtain COWs in a time of crisis.

11 Number four, LIPA must have open
12 communication with the communication barriers
13 as well.

14 Number five, it feels extremely
15 important to continue to build and invest in
16 the 211 system as well as 311.

17 Number six, hard-wiring adequate
18 positional service capabilities into offices
19 of emergency management are crucial.

20 Number seven, New York State
21 Department of Homeland Security satellite
22 communication vehicles must be deployed

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 across the state to perform exactly as they
2 did during this emergency. That worked.

3 Number eight, there must be an
4 educational campaign for residents with
5 alternative contacts, cell phone, SMS and so
6 forth for use in a time of crisis.

7 And finally, number nine, multi-
8 line programmable electric signs which we
9 used this time around must be made available
10 easily for emergencies so that they can be
11 used as supplemental communication.

12 In conclusion, we were faced with
13 many obstacles in executing our aggressive
14 crisis communications plan. But as a city we
15 came together to work around those obstacles.
16 Based on our on-the-ground experience we
17 recommend improving the broader
18 communications infrastructure so that first
19 responders and residents alike can
20 communicate effectively in times of crisis.
21 Thank you.

22 MR. TURETSKY: Thank you. Now

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 I'd like to turn to Michael Corso and to
2 Peter McGowan. Michael Corso is the managing
3 director as I said of the New York State
4 Department of Public Service and is the
5 representative of New York State who oversees
6 the Offices of Telecommunications, Consumer
7 Services and Policy, Energy Efficiency and
8 the Environment, and Industry and Government
9 Relations. And Peter is general counsel of
10 the Public Service Commission.

11 And I'd like to ask a question.
12 I'll let you answer it whichever of you cares
13 to. The state played a central role in
14 response to the storm in efforts to speed the
15 restoration of communications. Can you
16 describe the response effort you were part of
17 and share your thoughts on those efforts,
18 including how to enhance restoration efforts
19 in the future?

20 MR. MCGOWAN: Let me take that.
21 Thank you very much for the question and the
22 opportunity to address you today.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 In essence emergency management
2 is about executing a series of interdependent
3 priorities quickly and effectively in a
4 dynamic environment under tremendous
5 pressure. I had the privilege of being
6 required to spend an evening in the safe
7 energy office management, the bunker. And
8 I'm not an emergency, you know, responder.
9 I'm just a lawyer.

10 But the observation that I made
11 was that it was an incredibly intense effort.
12 It was incredibly realtime oriented. It was
13 very dynamic. It's an extremely complex,
14 sometimes frustrating but ultimately an
15 amazing problem-solving operation.

16 And one of the observations I
17 guess that really stayed with me was the
18 importance of realtime information. Realtime
19 information is an incredibly valuable
20 commodity which is used to effectively
21 allocate resources in a crisis.

22 It was also interesting to me,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 you know, when you're standing in this bunker
2 there are probably 30 different agencies with
3 stages that are processing information,
4 flowing information through, taking problems
5 and solving problems as quickly as possible.
6 So this is an operation that has a stake
7 working very closely with the counties and
8 then through to the local government with the
9 federal government also all working together
10 to try to identify the most pressing problem
11 and solve it as quickly as possible.

12 It was also interesting that the
13 electric utilities were in the bunker with us
14 to help that realtime flow of information.
15 The Department of Public Service in these
16 events provides a vital link between the
17 state's emergency response operation and
18 telecommunication service providers through
19 regular reporting of telecommunications among
20 other things, networks and critical
21 infrastructure via realtime outage reporting
22 protocols. We also do energy and other

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 things.

2 In the last 17 months the
3 department has witnessed two unprecedented
4 catastrophic weather events. And although
5 the cause of the damage and the geographic
6 impact were vastly different we have observed
7 certain common themes regarding the
8 interdependencies between electric
9 restoration efforts and telecommunications
10 restoration efforts and the resiliency of
11 telecommunications networks in the face of
12 catastrophic weather events and their
13 subsequent restoration of service.

14 Let me just give a quick
15 overview. During Superstorm Sandy
16 telecommunication systems were severely
17 disrupted as a result of catastrophic
18 flooding, wind damage, cable damage, extended
19 power outages.

20 At the peak of Sandy's
21 disruptions over a half a million wired
22 telephone lines were out of service, between

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 15 percent and 60 percent of wireless service
2 networks were inoperable in New York City,
3 Long Island and Westchester with nearly 3,500
4 cell sites knocked offline due to power and
5 other problems.

6 In the aftermath of Sandy our
7 department worked closely with the New York
8 State Ready Commission which along with the
9 Respond Commission were established by
10 Governor Cuomo to explore recommendations
11 that focus on preparing the
12 telecommunications and other industries for
13 disasters through planning, hardening and
14 resiliency. But there was a particular focus
15 on wireless because of the importance that
16 wireless plays.

17 It's essential that the state
18 work with the FCC and with the
19 telecommunications industry to maintain high
20 standards of performance to mitigate network
21 outages during emergencies and ensure the
22 quickest possible restoration.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Let me make three observations.
2 Interdependencies abound. So it's critical
3 that we work in an integrated and coordinated
4 fashion. First responders need
5 communications. Communications need power.
6 So priorities among priorities must be
7 understood and effectively executed which
8 requires a lot of data-intensive systems to
9 work well.

10 Following disasters we know that
11 wireless voice service and messaging is a
12 primary method of Commerce for the general
13 public, emergency response agencies and
14 disaster relief organizations. And while we
15 witnessed the ability of wireless providers
16 to act well to emergencies and power outages
17 to restore network elements within their
18 control more is needed to improve the
19 resiliency of critical wireless
20 infrastructure and the underlying power to
21 back all systems necessary to maintain
22 service during emergency. So interdependency

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 is absolutely critical.

2 The second observation is
3 information flow. It has to be quick, it has
4 to be uniform, it has to be efficient and
5 sufficient to render -- the actual in the
6 real world of restoration.

7 The final observation is that
8 systems have to be made more resilient to
9 better survive the new norm. Thank you,
10 David.

11 MR. TURETSKY: Thank you, Peter.
12 I'd like to turn now to Clifford Abbio who's
13 vice president of the engineering operations
14 at Crown Castle USA. And for background,
15 Crown Castle owns, operates and manages over
16 29,000 wireless communications sites in the
17 United States.

18 Cliff, the question I have for
19 you is please tell us a little bit about what
20 you do to prepare for events like Superstorm
21 Sandy, harden your towers and whether
22 carriers can site generators at those towers

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 as well as any lessons learned about ways to
2 maintain and restore communications
3 capabilities.

4 MR. ABBIO: Thank you. As you
5 said we own and operate and lease
6 approximately 30,000 towers in the United
7 States. We're basically the real estate
8 provider to the wireless industry leasing
9 space up on the towers and on the ground. We
10 provide lighting and coordinate FAA
11 regulations. And we do not typically provide
12 power to our tenants. We do not typically
13 own antennas on the towers or the electronics
14 at the base of the tower.

15 The response to Sandy really
16 began with good preparation. Crown Castle
17 has a defined hurricane preparation program.
18 We have towers that -- with designed speeds
19 of greater than 74 miles per hour. This is
20 located within the hurricane zone. On these
21 we perform inspections annually. It begins
22 in February and between February and June we

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 perform all the inspections that are
2 necessary and complete all maintenance
3 issues.

4 We hold calls every 2 weeks to
5 track progress. We have a defined disaster
6 preparation plan which we enacted during
7 Superstorm Sandy. We monitor the National
8 Hurricane Center for landfall threats. We
9 hold calls 4 days prior to any threat of
10 landfall and we begin readying the teams in
11 response.

12 As one example we do review any
13 of our towers that are in the path of a
14 storm. We make sure that any tickets that
15 are open on dead trees are removed so that
16 damage to our structure is avoided.

17 We have contractors on standby to
18 make sure that in terms of the particular
19 storm they have, make sure that all trucks
20 are fueled and crews are ready. After
21 landfall we implement incident response which
22 is basically based on the wind structure.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 For Sandy specifics, after the
2 storm hit you had basically the first thing
3 we do is we check the safety and well-being
4 of our employees and their families, make
5 sure we understand sort of what that whole
6 situation is.

7 We ran from the National
8 Hurricane Center all of the wind data through
9 our towers. Basically to identify 1,000 or
10 1,100 of our towers that were impacted by a
11 40 mile an hour storm winds. We established
12 a reconnaissance plan with troops on the
13 ground. We also used a backup of aerial
14 reconnaissance. We actually ended up using
15 that in the storm.

16 Our ground teams were severely
17 hampered by road closures, by availability of
18 fuel, availability of lodging. We did
19 utilize that aerial reconnaissance on over
20 100 sites.

21 When I asked the teams what could
22 have been done better in the particular storm

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 they said that really they could have used
2 some special access to hit the sites, and
3 really could have used some help getting
4 fuel. It really slowed down -- it took us
5 about a week to get to those 1,100 sites
6 which was longer than what we were expecting.

7 We could use some help with
8 federal, the federal government and
9 transporting, a security clearance if
10 necessary. And that was pretty much it in
11 terms of response.

12 As far as hardening and
13 generators our tenants have generators at
14 about half of our towers. And those towers
15 that do have generators with an average of
16 about one point three generators per site.
17 And that's pretty much it.

18 MR. TURETSKY: Thank you. Can I
19 just ask you since you were talking about it
20 there, do they share the generators or does
21 each carrier that has the antenna on the site
22 have their own generator?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 MR. ABBIO: Typically there's not
2 a lot of sharing of generators. We do have
3 some but it's very few. We did perform a
4 pilot program in 2009 for sharing generators.
5 We found quite a few things from that pilot.
6 We found out the cost to install the shared
7 location requires a lot more training and
8 drives the cost way up. We found that for
9 one tenant it's about \$50,000 is generally
10 the cost of the trenching. For two it's
11 about 70, for three it's about \$90,000.

12 We did find challenges with the
13 Clean Water Act, with Clean Air Act, noise
14 levels, hazardous materials storage, OSHA
15 requirements. We determined that we were not
16 in the best position to figure out where we
17 needed generators, where we put them. We
18 made sure we had at least one tenant that was
19 interested. We had zero lease up from our
20 other tenants in the 3 or 4 years that they'd
21 been there.

22

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 We found that it's costly to maintain them.
2 And further we don't know the future
3 requirements that our tenants would need. So
4 it's hard to kind of size the generator
5 right. We needed to understand sort of what
6 they needed. And for the generator
7 requirement it is also important to get the
8 size of the generator right.

9 Let me conclude by saying that we
10 are happy to work with our customers to work
11 out the shared program. It makes sense. We
12 think it's pretty reasonable that capital
13 cost-sharing be part of the program.

14 MR. TURETSKY: Thank you. Let's
15 go now to Sean Kielty. Sean works with FEMA
16 and he leads the emergency communications
17 efforts in FEMA Region 2 which includes New
18 York and New Jersey and was involved in this
19 disaster as well as many previous disasters.

20 Sean, I'd like you to describe
21 your activities and the role that FEMA played
22 and you played through FEMA in responding to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 the superstorm and restoring communications
2 including how that fits in with what others
3 in the public and private sectors do and
4 share any thoughts about potential
5 improvements.

6 MR. KIELTY: Thank you very much
7 for the question, sir. Thank you, fellow
8 panelists, commissioners from the FCC and
9 members of the audience.

10 I don't know that 5 minutes would
11 be sufficient time to delve into every aspect
12 of our response during Sandy as I am still
13 technically employed to our JFO in support of
14 the transition. But I can illustrate some
15 points.

16 One thing I wanted to do is review
17 for the sake of clarity exactly what FEMA
18 does during a disaster. As you can see from
19 the panelists there are state, local and non-
20 governmental organizations that have
21 tremendous emergency management capability,
22 whether that's police, fire, emergency

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 services, or their own suite of emergency
2 communications equipment being deployed and
3 used during a disaster or in anticipation of
4 a disaster.

5 When the state believes that there
6 is going to be a shortage -- believes that
7 they will require more support during the
8 storm, that's when they come to FEMA which is
9 the lead organization for any kind of federal
10 interaction.

11 It's important to note both the
12 Stafford Act and the Tenth Amendment of the
13 Constitution prevent FEMA from liaising
14 directly or dealing directly with the locals.
15 We deal only with the state and then with
16 non-governmental organizations as well as our
17 federal partners.

18 This actually dovetails nicely
19 into a story, the first story I'd like to get
20 into is the difference between FEMA. As I
21 kind of set it out we are basically a
22 coordination model for anything the state may

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 need from the federal government and among
2 the federal government.

3 For us, in addition to being a
4 coordination body we're also a checkbook. In
5 the agency they call it a cost share. It's
6 usually that 75 percent federal government,
7 25 percent state government. There are some
8 exceptions but that's generally the rule. So
9 coordination by check.

10 What we learned from our
11 perspective when it came to Hurricane Sandy
12 is that primarily it is relationships not
13 technology. You have to remain -- you have
14 to both proactively kind of grab the
15 initiative as well as remain flexibly
16 reactive. You want to react flexibly as the
17 situation changes. And deal with issues as
18 they arise.

19 The fuel is intricately linked to
20 communications as Mr. Corso brilliantly
21 marshaled in his brief. That was -- I can't
22 improve upon that. But based on that I just

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 want to share with you this -- as the
2 regional emergency communications coordinator
3 for Region 2 I have many federal partners.
4 One that I deal with on a regular basis, Mr.
5 Chris Huddle, is in the audience today with
6 the Office of Emergency Communications.

7 Now because of the Stafford Act
8 and the Tenth Amendment to the Constitution
9 not deal with locals regularly he as the
10 regional emergency coordinator for the Office
11 of Emergency Communications is able to reach
12 out to locals directly. And the conversation
13 that we had very well in advance of Hurricane
14 Sandy when it looked like it was definitely
15 going to impact New York was he was taking it
16 upon himself to do something that was part of
17 his regular everyday duty but to do it on an
18 almost constant basis. So he reached out to
19 public safety radio to make sure that public
20 safety radio either in New York or New Jersey
21 disseminating information on an almost hourly
22 basis. He knew there might be a problem and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 he did it with tremendous leadership. And it
2 winded up working out.

3 It could not have worked out
4 better from our perspective because that was
5 one less thing that we had to worry about in
6 the initial landfall of the hurricane because
7 Chris was providing us with near-realtime
8 information. And he did this on something
9 called a mission assignment where he's kind
10 of paid for his work after that. He did it
11 in the field to such a degree that it was,
12 you know, could not have been better from our
13 perspective. So that was a tremendous asset
14 where he had the initiative to just reach out
15 to me, tell me he was going to do this, and
16 then keep doing that throughout the disaster.
17 That alleviated a lot of the bureaucracy of
18 the experience and the morass we kind of hit
19 during the actual response to the emergency.

20 Another very brief story that
21 involves the New York State troopers. The
22 New York State troopers had a problem with

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 power and were unable to communicate with
2 each other from Long Island. I had a prior
3 existing relationship with State Sergeant
4 Becker. We had a professional relationship.
5 We've known each other for maybe 5 years. He
6 reached out directly to me in order to see
7 what federal assets he had already in the
8 field. And it just happened that literally
9 across the street from his barracks we had a
10 vehicle that could support cellular audio and
11 video communications through a satellite. It
12 had its own independent power source.

13 It wasn't being used yet, it was
14 just being pre-staged. I went through my
15 chain to make sure that everything was -- all
16 the i's were dotted and t's were crossed.
17 But because of the relationship that existed
18 between us and because he was a state
19 representative we were able to deliver within
20 an hour exactly what they needed in a process
21 that would normally have taken at least 48
22 hours to complete during that stage of the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 storm. So having these relationships over
2 technology, this technology will exist
3 somewhere although perhaps not as accessible
4 or as many of them as we had projected. I
5 made it over and I tried to wrap up the fuel.

6 As Mr. Corso said, fuel was our
7 number one problem from our perspective the
8 coordination of emergency communications
9 aspect of the response. Because Sandy was
10 primarily a rain event, not a wind event, and
11 flooding was much more a concern than say a
12 disaster like Hurricane Irene fuel became the
13 hottest commodity. And I think that whatever
14 we can do to improve, whether it's improving
15 the actual power being allotted in reserve to
16 the technology that's threatened will go the
17 longest way as far as preserving the possible
18 communication we're able to derive from that.

19 MR. TURETSKY: Thank you. Just to
20 clarify, the service that the FCC provided
21 for the benefit of the audience is
22 essentially a drive testing that helps gauge

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 the coverage and strength of signals that are
2 out in the marketplace. So that the
3 responders have some additional information
4 about where cell signals are effectively
5 reaching people and where they aren't.

6 With that let me turn to
7 Commissioner Clyburn and ask whether you've
8 got questions.

9 COMMISSIONER CLYBURN: Thank you.
10 I didn't want to get in trouble back home.

11 MR. TURETSKY: Neither do I.

12 COMMISSIONER CLYBURN: Mr.
13 Schnirman, in your statement you asked for
14 the opportunity to provide more detail as it
15 relates to again how can we build a more
16 resilient communications network. Will you
17 expound upon that, particularly as it relates
18 to how we can facilitate that.

19 MR. SCHNIRMAN: Sure. Thank you.
20 As I mentioned we think resiliency is
21 obviously crucial. We saw a situation where
22 all the cell phone carriers went out so not

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 only do residents not have a form of
2 communication but as I pointed out earlier
3 the first responders. And it's particularly
4 crucial and devastating in an environment
5 where folks rely on cell phones as their
6 primary source of communications.

7 So, specifically some observations
8 of our folks that came forward were
9 generators ought to be built into the cell
10 phone carriers. Just like gas stations
11 should have generators we've all learned
12 communications infrastructure needs to have
13 generators.

14 Backup batteries are a necessity.
15 Currently backup batteries only last about 8
16 hours. We need greater contingency for when
17 we have prolonged outages.

18 And all of the communication
19 equipment must be located above flood level.
20 The only carrier that we were able to get
21 service from right after the storm was T-
22 Mobile. This is because all their equipment

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 was located well above flood level. They
2 also had dedicated fiberoptic lines that were
3 not affected by the loss of copper-based
4 phone line communication after the storm.

5 COMMISSIONER CLYBURN: Thank you.
6 And also you were very complimentary about
7 the robust coordination between state and
8 federal and I know local. What can we do
9 more in terms of assisting Long Beach now and
10 how do you see from your vantage point us
11 improving upon the arrival of the
12 communication network. So you are seated
13 next to the chairman. I think I have to make
14 up to in a second. You know, how would you -
15 - what would you do?

16 MR. SCHNIRMAN: Well, first of all
17 thank you for that opportunity. And a
18 special thank you -- and we should give a
19 special thank you on behalf of the city of
20 Long Beach to Senator Schumer for stepping
21 forward in the immediate aftermath of the
22 storm. Not only to provide for us, but

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 overlooking and saying hey look, this is an
2 issue that the FCC has to tackle. And so
3 thank you to you for actually bringing the
4 equipment. It's extremely, extremely
5 appreciated.

6 I think what we've learned is
7 we've got to stage those COWs within cities
8 like Long Beach. We've got to have access to
9 them. We've got to have good infrastructure
10 on the wireless side not only so that we can
11 communicate with each other and our first
12 responders but so our residents can receive
13 the messages.

14 As we got our communications back
15 we were sending -- we executed what I would
16 argue is an excellent communication plan
17 through a variety of means, text, SMS, swift
18 911, email, Facebook. We were omnipresent.
19 However, the challenge was there wasn't
20 necessarily anyone there on the resident side
21 to hear us. And so they've got to be there
22 to hear us.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 If you look back at what our
2 successes were and there were basically two
3 major successes in the immediate aftermath of
4 the storm. The first was maintaining public
5 alert. With great thanks to our police
6 commissioner and our first responders in
7 coordinating the National Guard and state
8 police and all the different law enforcement.

9 The second ironically was
10 communications. And yet it was our biggest
11 obstacle. So we look back and say just think
12 how much better we could have done. In those
13 first several days when we relied upon flyers
14 that came out every day precisely at 10:30
15 a.m. and were distributed all throughout the
16 city. And even were distributed by police on
17 bullhorns through the streets before we could
18 even produce flyers.

19 Just think how much, you know,
20 what the residents felt in those first
21 moments when there was nobody, when they
22 couldn't get any information. When they were

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 cut off.

2 There was one woman in particular,
3 one story that comes to mind where there was
4 a woman who passed away of natural causes, an
5 elderly woman. And her daughter had to walk
6 literally a mile and a half from her home to
7 police headquarters just to say listen, my
8 mom has passed and I thought I should tell
9 somebody so that things could go
10 appropriately. There was no other way for
11 her to get that message out. It was very
12 sad.

13 And we look forward to your
14 leadership in assisting us in improving the
15 communications infrastructure so next time
16 we're able to communicate not just before and
17 after but during the immediate storm event
18 and during the immediate moments after.

19 COMMISSIONER CLYBURN: Thank you.
20 And with the remaining seconds, I'm not sure
21 I have time, but Mr. Corso, you mentioned
22 where you've been saying internally about us

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 preparing for -- or getting more resilient
2 for the new norm. One of the takeaways that
3 I had and you won't have time to answer the
4 question -- one of the takeaways that I had
5 was I remember this gentleman who English is
6 not his first language who was literally
7 stuck because he had no idea that the subways
8 were going to stop running at 7 o'clock that
9 evening. So I thought about him and I
10 thought about others, the 54 million persons
11 with disabilities. And how do we best
12 communicate with those populations where
13 there are additional challenges? How do we
14 improve upon that delivery and what were the
15 good and the more challenging things that
16 happened during the superstorm that we need
17 to work on? Again, I am a bit over time so I
18 don't know that you will allow it or if they
19 can integrate it in writing.

20 MR. TURETSKY: I'm going to allow
21 a quick answer to that.

22 MR. CORSO: The quick answer is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 the same as all the other answers which is
2 resiliency, hardening and improving the
3 communication reliability. It's critically
4 important because those same communities that
5 you ask about, Commissioner, are all
6 receiving information the same way as all
7 Americans, all New Yorkers, all local
8 families, folks, businesses, all our
9 customers trying to get access to
10 information. And they do it through the
11 technology afforded to us.

12 The real big issue that I wanted
13 to just add is the coordination of
14 communications and electricity is very
15 critical. We've learned a lot about that in
16 the past and we've learned much more about it
17 now. And if we coordinate those two
18 entities, those two industries better the
19 opportunity to accelerate commercial power
20 restoration and therefore telecommunications
21 restoration is greater. So we're prepared to
22 work with you we hope and other industry

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 representatives and other stakeholders to
2 ensure the speed in which we can best get
3 services back in order to the best of our
4 ability.

5 And one of those things is human
6 ability. It's getting people to coordinate
7 and prioritize in a way that will make
8 effective the work that we're doing despite
9 the fact that there was such a tragedy that
10 we're facing that we had to weather a
11 national storm incident.

12 COMMISSIONER CLYBURN: Thank you.

13 MR. TURETSKY: Thank you.
14 Commissioner Rosenworcel.

15 COMMISSIONER ROSENWORCEL: Thank
16 you. Thank you all for your testimony. I
17 want to start with a really high-level
18 question. It's really important that we come
19 back from this experience and we identify
20 what failed and we work together to fix it.
21 But I think it's just as important for us to
22 identify what went right because among that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 we'll have lessons that we can ask for other
2 communities that might in the future face
3 similar problems with communications. So for
4 as many of you as would like to speak I would
5 like to ask you what you think went right.

6 MR. TURETSKY: Why don't we start
7 with Mr. Merchant and go down the line for
8 everybody who wants to answer that.

9 MR. MERCHANT: Thank you,
10 Commissioner, for the question. I think a
11 lot went right. I think the communications
12 before Sandy arrived in the case of New York
13 we were able to let residents know who was
14 supposed to evacuate, where they were
15 supposed to go and how they were supposed to
16 get out. I think a lot of that preparedness
17 went very well and things went right.

18 Folks were able to evacuate in
19 time. The communications worked very, very
20 well. Our website stayed up. So all the
21 preparing for Sandy did help. And most of
22 those things did go right.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 After Sandy in spite of a lot of
2 criticism of the private network providers
3 they did work with us. In particular I can
4 point out Verizon. We did have calls three
5 times a day in terms of how we were going to
6 restore the services. So those things did go
7 right. It was after the fact but there was
8 quite a bit of cooperation from them and
9 other network providers in providing Cell on
10 Wheels, cell on light trucks. So after the
11 fact there were a lot of things that also did
12 go right. But if I may I think one
13 of the things that we could and we should
14 talk about is definitely resiliency and
15 hardening and sharing information before the
16 storm. I think that could have prevented a
17 lot of hardship on our residents.

18 MR. SCHNIRMAN: Very briefly, we
19 were able to deliver comprehensive
20 communications to our residents before the
21 storm and that was extremely effective. And
22 we were able to coordinate with other levels

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 of government before the storm and during and
2 after the storm. That was also extremely
3 effective. There was good lines of
4 communication open. We had folks in Nassau
5 County, OEM. We had constant communication
6 with the county executive, with the
7 Governor's folks and the Governor directly as
8 well as our Senators and that was
9 appreciated. And it made things work
10 smoothly and was very able to deploy
11 tremendous resources and assets to the city
12 for emergency response as a result of that.

13 And I would highlight that even
14 LIPA which has been obviously a major
15 bogeyman after the storm. We found a model
16 that worked. Several days after the storm we
17 got a mid-level team, management team from
18 LIPA, literally locked them in City Hall for
19 10 days. They slept and ate in City Hall and
20 we were able to work together to get things
21 back up and running quicker. And point to
22 the map, how are we doing over here, how are

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 we doing over there. And when can we get
2 this up. And that worked.

3 And so I think the lesson for us
4 is we need to replicate those successes on
5 the private sector side with the cell
6 carriers, get them in our Office of Emergency
7 Management, work with them directly and say
8 hey, you know, we need the COWs. We need
9 this network up, that network up and so on
10 and so forth. Thank you.

11 MR. CORSO: Thank you. I agree.
12 I think the preparation was something that
13 was very successful. The Governor really
14 ramped up emergency preparation since he's
15 been Governor. When FEMA reviewed all the
16 locks one of the things he shared was that
17 the utilities were in the bunker en force and
18 that helped communication and prioritization
19 much better than we had before.

20 And if we can improve upon that
21 and strengthen that and have better
22 relationships. Because I think my colleague

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 from FEMA really pointed out that it's really
2 a lot about relationships, being able to
3 communicate and understand each other with
4 ease our most highest priority and what we
5 need to get done and how fast we can do those
6 things. It's really the human element that's
7 critically important.

8 And another success is that New
9 Yorkers all came together and were able to be
10 as resilient as they could be in being able
11 to be available for each other and support
12 what was before us because nobody expected it
13 would be this bad. We were prepared for a
14 storm. We were not prepared for Sandy. And
15 that's because nobody thought a 15-foot tidal
16 wave if I could use that word, it just was so
17 unclear that would happen.

18 What were the ramifications of
19 that kind of flooding. When the sea meets
20 the land it's just something new. And as
21 Peter also reviewed in our comments it's the
22 new norm. We've got to think really hard

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 really fast about what we're going to do
2 futuristically as we've seen some very
3 significant storms in our country, Katrina
4 just 7 years ago and then now Sandy that are
5 of a magnitude that we've really got to pay
6 attention to and start to be more resilient
7 as a community, as a society, as a country.

8 MR. ABBIO: Okay, I'll be really
9 brief since we're out of time. But I think
10 our preparation plan went pretty well. We --
11 it's something we practice all the time and
12 when this storm hit we made the first call to
13 the director of the eastern area. He said
14 I'm already ready. And he was already
15 underway. So, that whole preparation and
16 practicing that really paid us benefits.

17 In fact, during the storm or after
18 the storm when we did our reconnaissance we
19 found only one site where a tree had fallen
20 upon the guide wire. And it didn't impact
21 the guide wire at all. We removed it and re-
22 tensioned it and everything was good.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 But really something that's shown
2 as I mentioned earlier is really important
3 and it's something that I said a couple of
4 times. Being flexible and able to adapt to
5 what the crisis presents is really important.

6 In this case we had lots of
7 things. We had contractors, we had planes on
8 standby and we had to use a lot of those
9 things. And bringing resources, capital
10 resources, human resources to the issue as it
11 presents itself is what paid dividends for
12 us.

13 MR. KIELTY: And I'll be equally
14 brief. Just to add to everything that was
15 already said up here, I believe
16 wholeheartedly that our best successes were
17 the relationships that existed both prior to
18 the storm and were developed during the
19 storm. The ability of those relationships to
20 really leverage everything you had to bear to
21 support this -- the emergency response to
22 this operation.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 I think that, again, just to echo
2 specifically what was said about the need to
3 be adaptive during any crises is so
4 important. And also to maintain that
5 initiative and to make sure that some kind of
6 group triage can be if not enthusiastically
7 endorsed at least enthusiastically executed.

8 MR. TURETSKY: Commissioner Pai.

9 COMMISSIONER PAI: Thanks, David,
10 and thanks to all the witnesses for your
11 testimony. My first question is for Mr.
12 Abbio. You discussed in your comments on the
13 regulatory barriers to placing generators at
14 cell sites. I was wondering if you could go
15 into a little more detail as to whether there
16 were any obstacles and what, if there were
17 any. Also looking into state and local
18 regulation of getting access to areas that
19 neither we nor states or localities can help.

20 MR. ABBIO: Okay, thanks for the
21 question. So, in particular we focused on
22 the state, we focused on Florida and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 predominantly because Florida is known to
2 have lots of power outages just due to the
3 degree of lightning strikes. It's also very
4 vulnerable as hurricane attacks. So we did
5 focus a lot of our energy there thinking that
6 the carriers would be very interested in
7 sharing that. It didn't turn out that way.

8 But as we looked into sizes of
9 fuel tanks to help support multiple tenants
10 what we ran into is locations and size of
11 fuel tanks. So the fuel tanks, diesel tanks,
12 I think the largest that we bring is 500
13 gallons. For the three carrier service I
14 think that was good for about 2 days.

15 That was predominantly the one
16 that limited us the most there but after we
17 were considering it things that we had talked
18 about were what were some of the setbacks
19 that OSHA requires. OSHA I think has a 10-
20 foot minimum setback for propane. So that
21 was something that as we looked at our
22 compounds it was really important to try and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 fit it into central locations at our compound
2 and it became a 10-foot barrier.

3 propane is obviously something
4 that would be an -- not propane but natural
5 gas is something that would be of interest
6 because of the continuous feed. You wouldn't
7 have to go and refuel so there wouldn't be
8 the fuel issues. But those were a couple of
9 events that we learned.

10 COMMISSIONER PAI: Good. My
11 second question is for Mr. Merchant. The
12 first aspect of wireless analysis that you
13 identified is backhauls. And I'm curious if
14 you saw the distinction with respect to the
15 performance of copper-based backhauls as
16 opposed to fiber and going forward whether
17 you think there is some neutral relations to
18 copper with fiber.

19 MR. MERCHANT: Thank you for the
20 question. What I saw off the backhaul, the
21 fiber department backhaul did stay up quite a
22 bit, for sure. And this was information that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 was shared through us by Verizon who kind of
2 owns most of the backhauls in the city.

3 On the copper side they did have
4 to remove, and they're still in the process
5 of removing, the copper backhaul as well as
6 even the CENTREX piece of the network.

7 I welcome the changes that a lot
8 of these network operators are making
9 investing in fiber. We also have to make
10 sure the components affected because the
11 newer technologies now that you see fiber
12 being able to install everywhere, now we are
13 able to get voice, video, data all on the
14 same backhaul. So, at best the public
15 shouldn't have to pay for the upgrade. So
16 I'll put in a plug here that, at best, has to
17 be cost neutral or savings has to be passed
18 on to the public. So we welcome the changes
19 that network providers are making in terms of
20 investing in fiber and so on and so forth.
21 But we also want to keep an eye on -- to
22 ensure that the backhauls stay stable at the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 same time. That the costs are not passed
2 onto the public.

3 COMMISSIONER PAI: Thanks. I also
4 had a question for Mr. Schnirman. Your sixth
5 recommendation was something I was hoping you
6 could go into more detail about. And
7 quickly, but as I understand it you said that
8 you believe that constituent services should
9 be hard-wired within emergency communications
10 services. I'm wondering if you could
11 describe what you had in mind there. If
12 there's any role for the FCC in facilitating
13 that effort.

14 MR. SCHNIRMAN: Thank you for the
15 question. Particularly for small
16 municipalities like Long Beach it is crucial
17 that obviously we're not going to have a full
18 blown out tremendous office of emergency
19 management. We don't have a huge facility
20 and we're not going to. We're in the process
21 of trying to build with satellite phones,
22 satellite TVs, you know, real communications

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 abilities.

2 That really can't lie dormant the
3 majority of the year. That would be an
4 inefficiency we can't afford. So within that
5 room also needs to be the ability to not just
6 send out communications in a time of crisis
7 but also coordinate -- not just the 911
8 capability but receive 311-like phone calls
9 which in a very low-tech kind of way and
10 route those service requests within our
11 department so we could see real response and
12 accountability.

13 And so that needs to be -- there
14 needs to be a marriage of the constituent
15 response, having somebody on the phone to
16 answer your questions particularly in a time
17 of crisis and the OEM. We don't have the
18 luxury of having a full blown out systems
19 separately for all these items. We need that
20 in a cost effective manner to work together.
21 And so we'll obviously be looking for the
22 resources immediately in order to outfit the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 system within. Thank you for allowing me to
2 highlight that.

3 COMMISSIONER PAI: Thank you and I
4 believe I'm done.

5 MR. TURETSKY: Chairman
6 Genachowski.

7 CHAIRMAN GENACHOWSKI: Thank you.
8 Thank you to all of our panelists for very
9 thoughtful comments and specific suggestions.

10 More of the themes and there were
11 several that clearly came through with the
12 interdependence of our communications grid
13 and our power grid. Many of you on the panel
14 have experience with both. Mr. Corso, let me
15 ask you because your work covers both pieces.
16 What would you want the FCC to know about
17 what will happen on the power and electric
18 side as we think about what should happen on
19 the communications side with respect to the
20 power issues? A two-part question. And what
21 from your experience are the areas of
22 greatest impact in improving the resiliency

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 of the network given the interdependence of
2 the power and communications grids?

3 MR. CORSO: Thank you, Mr.
4 Chairman. Simply put I would say that the
5 electric side, again, the resiliency of both
6 systems are critical. Something we say often
7 in New York is if you want a reliable
8 telecommunications system you have to have a
9 reliable electric system.

10 So we work in tandem in thinking
11 through how do we make resilient the networks
12 that are interdependent because the
13 interdependencies are critical. Not only
14 within the networks did you outline the
15 telecommunications, the wireless, the
16 backhaul, the wire line, VoIP, internet, all
17 this stuff is interconnected. And you don't
18 know where the call came from or how it got
19 generated. All the people really care about
20 is that it works.

21 On the electric side it's a little
22 different. It's a lot more linear. But the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 electric system reliability and the
2 telecommunications reliability is going to
3 come down to the investment. Capital
4 improvements, hardening, rebuilding networks
5 in a more safe, more reliable way,
6 underground is going to have to be
7 considered. Hardening and protection from
8 water intrusion, the kinds of things we
9 experienced in Sandy. It's going to have to
10 be very thoughtful prioritization and
11 planning because there's not enough money to
12 go around to do all that work decently. It's
13 going to have to be brought in a planning
14 way. It's going to have to be done over
15 time. And hopefully in a coordinated way so
16 that we can get the value of both those
17 networks, electric and telecommunications,
18 built in a way that's beneficial to society.

19 CHAIRMAN GENACHOWSKI: Thank you.
20 Mr. Merchant, New York City was the first
21 city to launch wireless emergency alerts,
22 outbound texts to people's mobile phones in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 connection with emergency situations. It's
2 still very early innings for this new
3 technology but I wanted to ask you whether
4 that was a tool that you utilized in New York
5 as kind of in general about coming out of the
6 Sandy experience what opportunities you see
7 for next generation communications technology
8 investments in some of the issues we heard
9 this morning.

10 MR. MERCHANT: Thank you, Mr.
11 Chairman, for asking the question. We did
12 issue three text messages. Our folks that
13 issued three text messages during, before and
14 after the Sandy event. I think it went well.
15 I think sending text and wireless
16 communication is a great way for the public
17 to kind of get -- really get involved and he
18 was there for emergencies like this.

19 But going back to one of my
20 colleagues making the comments, sending out
21 text messages if there is nobody on the other
22 side to listen or to receive. I think in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 future as I outlined I believe it is almost
2 imperative that FCC, the leadership of FCC
3 become a critical leverage at minimum public
4 should have access to some level of voice and
5 texting capabilities so lives can be saved.

6 In our situation, again, I'll go
7 back. We had some homebound residents and
8 for them to be able to communicate with the
9 city officials and emergency management
10 folks, at the same time their relatives,
11 without having those capabilities it would be
12 very difficult for us to save lives. This is
13 a question of life and death.

14 What worked in our case was that
15 we had old-fashioned 800 megahertz radios and
16 we had to send people up and down buildings.
17 So in future I would say text and voice
18 capability.

19 Second, the generators as we
20 talked about, I think looking at some
21 alternate fuel technology so that you are
22 able to keep power up to the COWs as well as

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 cell on wheels as some of the antennas. And
2 we have to investigate that a little bit
3 further so that we are able to provide longer
4 lasting batteries. I think that would be
5 very helpful and looking at those matters.

6 And of course coordination with
7 power as well as -- power utilities as well
8 as telecom companies providers would be very
9 helpful.

10 CHAIRMAN GENACHOWSKI: Thank you.
11 I had one other area. I think what I'll do
12 is I'll just ask for responses as follow-up
13 to this. But one theme of the panel was the
14 subject of information. And how important
15 information is for preparedness, for
16 responding during the emergency.

17 I think it would be very helpful
18 to hear from each of you afterwards on what
19 concrete steps can be taken to improve the
20 information flow as Commissioner Rosenworcel
21 said. What worked when it came to
22 information? Where did you see areas for

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 improvement with respect to information from
2 the cell communications providers, federal
3 and state communication, power communications
4 communication? I think that's an important
5 area and that's something that we'd like to
6 make an ongoing discussion issue.

7 MR. TURETSKY: Thank you. With
8 that let's wrap up. I want to thank the
9 panelists for a very stimulating discussion.
10 And I'd like to invite up our general counsel
11 Sean Lev who will be the moderator for the
12 next panel. Thank you to this panel.

13 (Applause)

14 (Whereupon, the foregoing matter
15 went off the record at 10:59 a.m. and went
16 back on the record at 11:05 a.m.)

17 MR. LEV: Good morning, Mr.
18 Chairman and commissioners, our guests and
19 panelists. The second panel this morning is
20 titled "Assessing Network Resiliency -
21 Lessons Learned from Sandy."

22 I'm Sean Lev. I'm general counsel

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 of the Federal Communications Commission.

2 (Laughter)

3 MR. LEV: So our distinguished
4 panelists this morning. First, Upendra
5 Chivukula from the New Jersey State
6 Legislature. Jim Gerace, vice president of
7 state government affairs of Verizon -- of
8 state government affairs for New York,
9 Verizon. Brian Allen, corporate group vice
10 president and chief security officer, Time
11 Warner Cable. Ed Comer, general counsel of
12 the Edison Electric Institute. And Tony
13 Bardo, vice president, Hughes Network
14 Systems, an Echostar company.

15 Thank you all for being here this
16 morning. We're going to follow the same
17 routine as in the first panel. I'm going to
18 ask an open-ended question, give you 5
19 minutes to respond, one for each of you.
20 Then we'll turn it over to the chairman and
21 commissioners. Each will have 5 minutes as
22 well. So we can get started.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 I'll start with Assemblyman
2 Chivukula. You bring a unique background to
3 this endeavor. Not only are you a member of
4 the New Jersey General Assembly, you're the
5 chairman of the Telecommunications and
6 Utilities Committee, vice chair of the
7 Homeland Security and State Preparedness
8 Committee and you're a member of the
9 Transportation, Public Works and Independent
10 Authorities Committee. And you're an
11 engineer. So given your extensive background
12 and unique perspective we were wondering what
13 is the one thing that you would recommend,
14 one of the key things you would recommend to
15 assure the continuity of communications in
16 the community likely to have a future event
17 like Sandy.

18 HON. CHIVUKULA: Thank you very
19 much, Sean. Good morning and thank you. I
20 want to thank Chairman Genachowski and the
21 members of the FCC commissioners for this
22 opportunity.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 I have a -- from New Jersey
2 perspective we had a tremendous loss of
3 power. We earlier talked about it was the
4 power that was hand in hand with
5 communication. When we look at Hurricane
6 Sandy it was an extraordinary event and there
7 was complex problems. Why were families so
8 unable to rely on the regulatory structure
9 including the tunnels and subways, need
10 access to fuel and electric grid.
11 Notwithstanding the best disaster planning in
12 energy and foreseeing the rains and threats
13 and all this materialize, and plans need the
14 flexibility and ability to accommodate these
15 unpredictable occurrences.

16 For example, in Superstorm Sandy
17 significant interruptions in petroleum
18 distribution and dispensing were not
19 forecasted and carriers had to adjust to the
20 events. Disaster planning is about process
21 and a response structure, not adhering to
22 some static bureaucratic rule.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Consider that most significant
2 failures against plans were the massive and
3 prolonged electric utility outages. States
4 had better assist in these efforts by
5 fostering providers' efforts to quickly
6 restore service rather adopting burdensome
7 ineffective regulatory mandates.

8 For example, in New Jersey during
9 and after Sandy restoring vital service was
10 greatly enhanced by the government and
11 corporate cooperation through sharing
12 critical information with providers such as
13 information on power availability, fuel
14 sources and different things.

15 Carriers invest hundreds of
16 billions of dollars annually to increase and
17 improve existing sites. This investment is
18 not motivated by a government mandate but a
19 business decision to offer service that meets
20 the demand of customers. Providers are
21 already subject to extensive federal
22 reporting requirements so we need to have a

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 national standard because there is --
2 wireless is not a regulated industry.

3 The state-specific outage
4 reporting may be redundant, especially when
5 you have a regional thing, when New York and
6 New Jersey, and the tri-state area, you have
7 so much of a disaster that took place. And
8 also the fiercely competitive nature of
9 industry drives each provider to do all that
10 they can to satisfy the customer who have
11 many choices available to them. The ability
12 to provide a vital service during an
13 emergency is no exception.

14 We need to look at some
15 infrastructure considerations. Legislators
16 like myself and the leadership support
17 policies that expedite and streamline cell
18 siting. I have legislation to co-locate some
19 of the cell sites so that way you have an
20 opportunity for providing communication and
21 redundancy with the cooperation of the
22 carriers.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 And the ability to add backup
2 power. At times the other panel also talked
3 about trying to see whether they would be
4 able to make use of alternate sources of
5 energy like solar and other things, if you
6 can do that. And of course you need to look
7 at some of the constraints in terms of the
8 space, some of the building codes and the
9 safety requirements. And sometimes the
10 constraints can hinder the providers' ability
11 to maintain the coverage and expand coverage
12 or add to their capacity. And I think we
13 need to make sure that future cell sites that
14 are just -- make arbitrary backup power
15 capacity permanent.

16 And also in New Jersey we have
17 developed legislation trying to mandate
18 generators, mandating the placement of
19 generators including private property rights
20 and eminent domain considerations. It also
21 risks unintended consequences if there's a
22 mandate to add backup power at a site

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 incapable of housing initial infrastructure
2 carriers may be forced to deactivate certain
3 sites.

4 Moreover, the mandate may be
5 consistent with future efforts towards small
6 cells to support ever-growing broadband usage
7 in dense areas with challenging space and
8 zoning restraints.

9 MR. LEV: Thank you. Jim Gerace.
10 Mr. Gerace, you're responsible for Verizon's
11 public policy, government and external
12 affairs, regulatory matters and philanthropy
13 in New York, New Jersey, Connecticut.

14 In your role, can you describe the
15 impact of Sandy on Verizon's network
16 operations including its wire line and
17 wireless and backhaul operations? And how
18 that affected consumers and anything you have
19 seen that you might try to improve in the
20 future.

21 MR. GERACE: Sure. Thanks very
22 much. Mr. Chairman, commissioners, thanks

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 for the opportunity to talk about Verizon's
2 response to Sandy.

3 And it's probably most appropriate
4 to start with Lower Manhattan since that's
5 where we are today. And also it was a very
6 unique challenge. And the issues that we had
7 here we had never seen before.

8 So, we have two central offices
9 that serve this part of Manhattan. Both were
10 affected by the substantial flooding that
11 occurred. While the switches were out of
12 harm's way on upper floors the real damage
13 was done to the outside plant, the cables
14 that go from those switches to our customers
15 here in Lower Manhattan. And to the
16 customers' equipment in their sub-basements.
17 I've never seen anything like that before.

18 But essentially today we're about
19 90 percent restored here in Lower Manhattan.
20 This area has gone through a technological
21 transformation that under ordinary conditions
22 take years to complete. It's only been 100

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 days and we've laid about 6,500 miles of
2 fiber and removed about 150 tons of old
3 copper cable.

4 The result of all this is the --
5 all of Lower Manhattan is now 100 percent
6 fiberoptic. This bodes very well for
7 withstanding storms like this in the future.

8 Additionally, and I like to call
9 this the silver lining of Sandy. Our
10 customers have -- the majority of which had
11 moved their telecom equipment closets out of
12 the basements and into floors high above
13 where the water came in in Sandy. So I think
14 again that bodes well for withstanding future
15 storms like Sandy.

16 In a couple of other notes about
17 outside of New York City, we were faced with
18 the issues that we over the course of the
19 year normally face with hurricanes in the
20 South and that is downed trees and power
21 lines and you know, backhaul to cell sites.

22 For the most part those areas have

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 all been restored. The wireless network
2 fared very well during Sandy for -- if I was
3 to pin it on one reason it was because it's
4 almost 100 percent fiberoptic down to Verizon
5 cell sites.

6 The cell sites are also -- we have
7 a very high penetration of generator backup
8 power to the cell sites. Over 80 percent.
9 So for the most part the wireless network
10 fared very well during Sandy and its
11 aftermath.

12 For the most part all of the
13 suburban areas have been restored to the
14 telephone service where customers have
15 returned to their homes. There are still
16 substantial amounts of the New Jersey Shore
17 and parts of Long Island and Staten Island
18 where people have not yet rebuilt so there is
19 not facilities there. But as they return we
20 will be ready. For the most part the
21 facilities have already been run to all of
22 those areas and we just are awaiting now

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 customers' return.

2 Obviously there were lessons
3 learned in Sandy. I mentioned a couple of
4 them but I think the conversion to newer
5 technologies was validated by Sandy. Where
6 we had fiberoptic cable here in Lower
7 Manhattan those customers were restored
8 immediately after the switches came back up
9 which for West Street CO was the next day and
10 our Broad Street CO was a couple of days
11 after that.

12 Additionally, wireless network
13 resiliency has again validated wireless
14 technology for use during storms like Sandy.
15 And I think further validated its use more
16 broadly for consumers to stay in touch during
17 these types of disasters.

18 MR. LEV: Thank you. Mr. Allen,
19 you're Time Warner Cable's group vice
20 president and chief security officer. Much
21 like Verizon, Time Warner Cable has extensive
22 operations in the region affected by Sandy.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Can you just please describe the impact of
2 Sandy on your company's network operations
3 and on your customers and any lessons you
4 learned from it?

5 MR. ALLEN: Sure, sure. And
6 Chairman and Commission, thank you very much
7 for this time. After every crisis there's an
8 opportunity to learn and I will attest that
9 our company, the response and recovery
10 efforts, you know, that everyone in the
11 company moved with a purpose and we're
12 applying the same purpose to lessons learned
13 and how to apply this to our post mortems and
14 our emergency response in the future.

15 Similar to Verizon we had some
16 impact with our hub sites that distribute our
17 services and mainly with downed lines. Our
18 services were impacted as well by power
19 outages.

20 In preparation for Sandy we spent
21 a significant amount of time moving fuel pods
22 and implementing our national fuel strategy

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 to get material into place needed to repair
2 timely, bringing in satellite phones. WPS
3 and GETS, by the way, worked very well for
4 us. Moved in recovery trailers and hundreds
5 of generators were brought in from outside of
6 the country.

7 Our hub sites all have generators
8 and at times redundant generators. We
9 brought in technicians to be able to repair
10 generators should there be outages and in our
11 most critical locations had technicians
12 onsite to be prepared should there be an
13 outage with the generators.

14 We brought in critical personnel
15 with -- to be able to help us recover with
16 our infrastructure. At one point with 15
17 personnel at one of our critical sites. And
18 as with Verizon they were stuck there for a
19 period of time. And like I just said, an
20 example of the effort was put in.

21 Recovery -- our command and
22 control, it was handled very well. A lot of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 information coming in from the public to be
2 able to respond.

3 Refueling, we set up six refueling
4 stations across the five boroughs and outside
5 of the city. Some of the main issues that we
6 had dealt with in our recovery was
7 prioritization in moving fuel around to our
8 generators. When you have 200-plus
9 generators out in the field that need to
10 refuel on a timely basis the logistics around
11 that are significant. And moving around the
12 city was difficult.

13 We had significant assistance with
14 the Office of Emergency Management in New
15 York City where we had a seat at the table.
16 The NCC was incredibly helpful.

17 I think one of the issues that we
18 deal with on a regular basis is trying to get
19 the emergency management offices across the
20 country to recognize that the cable operators
21 also provide very similar services to the
22 phone providers and essential services. And

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 that's been a challenge of ours at times.

2 We spend a lot of time trying to
3 build these relationships. John O'Connor and
4 Mike Roston from the NCC have been incredible
5 partners of ours. The New York City OEM was
6 incredibly helpful to be able to respond.

7 We talked about crisis and we said
8 that we had plans and we had significant
9 plans for hurricanes and tornadoes and
10 earthquakes. But when the plans work it's
11 business as usual. When plans don't work
12 you've got a crisis. And we certainly dealt
13 with a crisis and see adaption.

14 Being able to communicate with
15 power authorities is critical for us. They
16 dealt with a very similar crisis and we sat
17 next to them at the OEM. And they were
18 bombarded with requests for information.
19 Having that kind of information is incredibly
20 timely. It enables us to prioritize and
21 focus our recovery efforts so that we're not
22 wasting resources in locations that power may

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 not come up after a certain amount of time.

2 And as resilient as our plan is
3 when there are major power outages,
4 commercial power is out, we really are
5 dependent on them and work closely with them
6 especially as they recover and they manage
7 power lines. So we did work closely with
8 them. The New York City OEM was incredibly
9 helpful as well, as well as the NCC.

10 But that is an incredible
11 relationship that needs to be established at
12 a level that's not just -- doesn't happen
13 during a crisis. It's pre-established. The
14 information is timely and it's accurate. We
15 certainly understand the amount of issues
16 that did develop as well. Certainly we had --
17 - I think that's -- it's hard to adapt on the
18 move like that. It needs to really be
19 established. One of the lessons
20 learned that was critical for us is the
21 relationships with OEM on the federal level
22 was really critical. And when we go into --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 you know, at times where we had access
2 issues, the majority of access issues that we
3 had were local roadblocks. And we could go
4 in and fix your phone and broadband but don't
5 touch your video not knowing if it's the same
6 plant and how the plant really services other
7 services as well. So it's information and
8 it's education and we spent a lot of time on
9 that. But that's lessons learned for us as
10 well.

11 MR. LEV: Thank you. So we'll
12 turn next to Ed Comer who is the vice
13 president, general counsel and corporate
14 secretary at the Edison Electric Institute.

15 Mr. Comer, a key theme this
16 morning is the interdependency between
17 communications apparatus and the electric
18 grid. Can you please describe briefly how
19 the electric utilities responded to these
20 events and how that response might be
21 modified in the future to coordinate better
22 with communication towers?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 MR. COMER: Thank you. This is
2 one of many proceedings both formal and
3 informal where our industry is looking over
4 lessons learned from Hurricane Sandy. We
5 lost 10 million customers in 20 states. That
6 was twice the number of customers that we've
7 lost in Hurricane Katrina and we lost 95
8 percent of our customers in Long Island.

9 I think it's fair to say the
10 interdependencies are obvious. We rely upon
11 telecom systems to operate our systems, to
12 manage our restoration, coordination and to
13 communicate with our customers realtime in
14 emergencies as well as communicating with all
15 of the emergency response people that we're
16 talking about.

17 Resiliency is an issue for us as
18 well. It's a complicated subject. At a
19 minimum you must be prepared, have multiple
20 backups. Certainly for emergency response
21 facilities it's important to have adequate
22 backups. I recommend you to take a close

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 look at a DOE report that was issued in
2 October 2010 talking about telecom
3 requirements in a SmartGrid context. I think
4 it has some excellent recommendations about
5 backup requirements of telecom in terms of
6 our needs. I will say that many
7 of our members, we are subject to federally
8 improved reliability standards for our
9 industry. And it's a complicated process
10 like backup requirements and other things.
11 And many of our members use our own private
12 telecom facilities because they believe that
13 they can -- they want more backups than they
14 can get from the commercial system.

15 We are notwithstanding the storms
16 and the outages subject to extraordinary
17 reliability requirements and their
18 requirements.

19 Briefly on recovery, one of the
20 things that's unique in our industry is that
21 we have a voluntary mutual assistance
22 program. For hurricane size storms, Sandy,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 et cetera. Through this program
2 that's been in existence a long time we've
3 brought tens of thousands of workers from as
4 far as the west coast and Hawaii and from
5 Canada into the east coast to help respond.
6 We did our plan ahead of time. We started
7 phone calls with our CEOs of all of our
8 member companies a couple of days before
9 landfall. Secretary Chu, Secretary of Energy
10 Chu attended those phone calls. And after
11 landfall on October 30 President Obama joined
12 the call and urged us to restore power as
13 quickly as possible, promised to do
14 everything he could to eliminate any federal
15 regulatory barriers. And they were very
16 helpful.

17 And FEMA Administrator Fugate
18 invited representatives from our industry
19 into the FEMA headquarters in Washington.
20 The first time that's ever happened in an
21 outside area. And I will say that those
22 calls and contacts continued for 2 weeks and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 echo the comments you've heard earlier from
2 state and local people and the FEMA people.
3 It was very helpful in coordinating and
4 exercising a lot of activities at the federal
5 level.

6 Again, throughout that period we
7 sent tens of thousands of workers to the New
8 York and New Jersey area. Many of them came
9 after they had restored power in their home
10 areas.

11 We too learned more about fuel
12 issues and we had some responders who brought
13 their own fuel from the South. Others
14 brought them in from Ohio and some of the
15 locals here had had problems. And certainly
16 I know from mostly Secretary of Energy Chu
17 fuel is going to be a bigger priority for all
18 of us.

19 In terms of coordinating response
20 more directly between telecom providers and
21 utilities I think it's important that that
22 has to be done in coordination with FEMA

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 through the federal system because we work
2 with DOE that was our line agency under the
3 federal system. There was the FERC which is
4 our analogy but we work with DOE.

5 And most of the direct response
6 activities are managed at the state and local
7 level. It's important to do the coordination
8 there and for us it's important to keep the
9 state and local utility commissions involved.
10 Because they have a lot of setting up our
11 priorities and how the recovery system is
12 run.

13 MR. LEV: Thank you. Finally Tony
14 Bardo is vice president of Hughes Network
15 Systems. Mr. Bardo, from the role of less
16 traditional or gap-filling communications
17 capabilities during emergency situations an
18 important part of network resiliency can you
19 describe the role satellite providers played
20 in the Sandy response and what should and
21 shouldn't be the future?

22 MR. BARDO: Thank you, Sean. I

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 thought you'd never ask. Mr. Chairman and
2 commissioners, thank you for the opportunity.

3 Satellite technology represents
4 the only high-speed broadband connectivity
5 option available everywhere across the United
6 States. And today's satellite technology and
7 the satellite industry delivers broadband on
8 a cost effective basis to over 1 million
9 subscribers that are otherwise unserved or
10 underserved by terrestrial or wireless
11 technologies.

12 Satellite can also serve as an
13 instrumental communications path in times of
14 emergency in the immediate aftermath.
15 Satellite coverage is uniformly high quality
16 and offers a truly alternate path, diverse
17 communications path which is essential for
18 emergency response and recovery activities
19 when disaster strikes and terrestrial
20 broadband networks are the most vulnerable.

21 We sat while Superstorm Sandy
22 pummel the mid-Atlantic and the Northeast.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Many thousands of people and businesses were
2 still without power and so were many way
3 stations, towers and switching centers,
4 terrestrial network providers that were
5 knocked out in the wake of the storm.

6 Conversely satellite technology
7 weathered the storm pretty well with limited
8 or no disruptions to service. And Hughes
9 played and continues to play even now a vital
10 role in keeping emergency responders and
11 business and people connected in the
12 aftermath. Here's a couple of ways we did
13 that.

14 The Rockaway and Far Rockaway
15 areas of Queens, New York, homes to between
16 one hundred seventy-five and two hundred
17 thousand people were hit particularly hard
18 during the storm and had little or no
19 communications. Among the great things that
20 FEMA did -- we started working with FEMA
21 months ago, started preparing for such an
22 event in terms of having satellite terminals,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 100 satellite terminals and WiFi stations
2 that we provide pre-staged and a first round
3 refusal established for FEMA for such an
4 event.

5 FEMA opened up about 40 disaster
6 recovery centers or DRCs in the area
7 providing much-needed information about
8 recovery services such as housing, rental
9 assistance, claims for citizens and assisting
10 other agencies such as the VA and the SSA and
11 the Small Business Administration.

12 Communications are an essential
13 part of the DRC but with terrestrial lines
14 down volunteers and disaster victims couldn't
15 make calls or apply for services. Hughes
16 responded within 48 hours as were the terms
17 of our pre-established program with FEMA and
18 provided the DRCs with broadband, terminal
19 and high-speed broadband services.

20 Secondly, we helped out the
21 Habitat for Humanity. In the Breezy Point
22 area of New York over 100 homes were

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 destroyed. And the Habitat set up a command
2 center nearby to coordinate the rebuilding
3 efforts. We worked with the Cisco to
4 establish satellite communications
5 capabilities so that the organization could
6 continue their rebuilding efforts.

7 And finally, the really low-tech
8 way that we helped out, we helped out an
9 organization called the All Hazards
10 Consortium. They work with state and local,
11 federal government agencies. Hughes has
12 thousands of retail customers, hotels,
13 restaurants, gas stations, convenience
14 stores, pharmacies up and down the affected
15 area. And they are our customers. We
16 provided the All Hazards Consortium with a
17 simple spreadsheet regularly, it was every
18 day at 1 o'clock we provided this to them.
19 And it provided truckers, first responders,
20 people that needed to know where they could
21 get a bed, where they could get gas, where
22 they could get a meal simply because of the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 simple spreadsheet that we provide every day
2 to the All Hazards Consortium. They
3 distributed it of course to FEMA, to elements
4 of DHS and the state and local government.
5 This was very helpful. So we were honored
6 really to have a role to work with community.

7 Again, out of the four DRCs we had
8 to establish immediate service. FEMA first
9 had to wait as per Sean's earlier comments
10 that FEMA had to wait for the states to
11 invoke them. We had to wait for FEMA to
12 invoke us and then we got to it right away.

13 In the satellite industry when we
14 use -- of course I work for Hughes. In the
15 satellite industry it's our hallmark to help
16 in immediate aftermath recovery effort. But
17 I daresay that one of the things that we were
18 trying to advocate for, and I should have
19 done a better job with Mr. Schnirman of Long
20 Beach. I've got a lot of work to do in terms
21 of outreach to let him know we're there.

22 But the idea of preparedness.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Establish preparedness in governmental
2 centers as town halls, at federal agencies
3 that deal and work with the public. Many
4 federal agencies say okay, well here we've
5 got services in Carrier A and Carrier B. And
6 while I'm an Italian-American and I
7 appreciate the hand movements and so forth
8 I'm saying no. You've got Carrier A and
9 Carrier B going down the same path. And so
10 path diversity is so important here.

11 And I just, if there's a message I
12 want to leave with the audience and with you
13 folks it's that that's a very useful process
14 to invoke in the building of network
15 architecture.

16 MR. LEV: Thank you. We'll turn
17 now to commissioners and we will start with
18 Commissioner Clyburn.

19 COMMISSIONER CLYBURN: Thank you,
20 Mr. Bardo. It's good to know that we have
21 some things in common.

22 So you've made mention and

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 reinforced how important the role that you
2 use -- that you play when it comes to
3 temporary services, especially in cases of
4 emergency. And we heard earlier about some
5 of the while well-meaning, some of the
6 challenges some rules and regs have in terms
7 of screening into action in times of crisis.
8 Can you tell me what the FCC could do more
9 about or how we could better that engagement
10 in terms of unifying network services?

11 MR. BARDO: I thank you for that.
12 I think that the FCC could encourage the best
13 practices of what went right. Commissioner
14 Rosenworcel made mention in the last panel of
15 stressing the things that went right. What
16 went right was that satellite was invoked,
17 perhaps not enough, perhaps not quickly
18 enough.

19 But this whole idea of
20 preparedness. There's an issue of emergency
21 preparedness and emergency response.
22 Emergency response, you're still going to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 have that 2 or 3 days lag time before we can
2 get our installers. We have installers
3 nationwide and they can perform miracles but
4 we still have that 2 or 3 days lag time where
5 people are without coms that is kind of
6 critical.

7 Preparedness, path diversity.
8 Encourage all government at all three levels
9 to where funds are available or where funds
10 could be made available to employ path
11 diversity in networks. We're not here to say
12 that we're the answer to everybody's
13 problems. Everybody's got a role here.
14 There's very many strengths just here at this
15 table of wire lines, radio, cell and
16 satellite. We all can form a role here. And
17 that mixture I think is the key.

18 COMMISSIONER CLYBURN: And this
19 would be for the entire panel given the time
20 constraints. It was alluded to that I think
21 many of us are aware that your employees
22 really put themselves out in times of great

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 peril during this -- particularly this last
2 crisis, in any crisis. Can you tell me what
3 we could do more about ensuring their safety
4 and what lessons have we learned in that
5 exchange? And how can we help. How can
6 state, federal and local governments some
7 help in that.

8 MR. ALLEN: Yes. Again,
9 information-sharing. I'll just share a
10 quote. Dwight Eisenhower says that in
11 preparing for battle plans are useless but
12 planning is invaluable. And that proved so
13 true during this crisis.

14 We had a tremendous amount of
15 effort in preparing, doing risk assessments
16 and business impact analysis. It's the
17 information-sharing and the acknowledgment
18 that these services are essential which I
19 know resonated very much so with our
20 employees. And you see it in how
21 communications are being adapted to
22 communities and the economy and that really

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 drove the purpose.

2 And being able to share that and
3 helping us adapt during a crisis because
4 we've got dedicated people and we've got the
5 mindset and the experts in the field. It's
6 when the plans are not working and being able
7 to know who to reach out to, getting to the
8 right folks at the federal level and at the
9 very local level. And if we knew that the
10 recovery efforts are going to be a lot more
11 effective and a lot more efficient.

12 I think we did a great job and
13 that's because it was an asset crisis. But
14 that's the one area that I think if we can do
15 even better and even quicker and need to
16 adapt across the board.

17 COMMISSIONER CLYBURN: Not an
18 unrelated question but Mr. Comer mentioned
19 something that I've grown accustomed to at
20 least in my role as -- former role as a state
21 regulator in that there is this sharing that
22 happens really all hands on in times of

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 crisis, particularly on the energy side. I'm
2 wondering on the cable and other essential
3 services side, when we say cable we can
4 debate whether that's essential. But a lot
5 of your -- oh no, did I say that out loud?

6 (Laughter)

7 COMMISSIONER CLYBURN: But what I
8 mean by that is in terms of your businesses
9 it is communication. So tell me given all of
10 that are there any duplicates or replication
11 as it relates to the energy model of sharing
12 and coming together in times of crisis? Did
13 anybody help you?

14 MR. GERACE: Yes. Actually, I'll
15 put your last questions together on that one.
16 Thanks for acknowledging first of all the
17 importance of the employees safety.

18 One of the best practices that
19 came out of Sandy that's more important with
20 electric utilities is previously standard
21 operating procedure would be the electric
22 company has to clear the way first for the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 telephone company to come in and then restore
2 service. Because of the sheer magnitude of
3 damage and particularly in New Jersey the
4 electric crews just couldn't keep up. And we
5 obviously were slowed down because they
6 couldn't get to everybody.

7 So we thought it would help -- it
8 was almost a mapping type of software that
9 allowed us to see where they had turned power
10 off so we could go into that area even though
11 there was no electric crew in sight. And in
12 those cases we need to put electric poles
13 back. They would go to areas where our poles
14 were down and they would replace our pole.

15 So the cooperative agreement there
16 on that we had with both the electric
17 utilities in New Jersey that I think really
18 went a long way to speeding to restore both
19 electric and telephone service in New Jersey.

20 MR. LEV: Thank you.
21 Commissioner.

22 COMMISSIONER ROSENWORCEL: Mr.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Allen said something about out of crisis
2 comes opportunity. And as you know I'm a big
3 believer in that. So I think it's
4 instructive to look back to one of our last
5 crises in Hurricane Katrina and look at what
6 adjustments were made to laws that govern
7 communications and disaster recovery.

8 After Hurricane Katrina we updated
9 the Stafford Act in some small ways. And
10 Stafford Act of course is the law that
11 governs disaster assistance from the federal
12 level if there's a big storm or incident.

13 We also made some adjustments at
14 the FCC and attempted to put in place some
15 backup power rules for wireless cell power
16 which were later disallowed. But in any
17 event, if I were made legislator for the day,
18 I'd ask you what laws or rules would you
19 change so that things work better next time.

20 MR. COMER: Let me just say from
21 my perspective it's not necessarily loss of
22 rules. There are lots of things one could do

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 with the Stafford Act. But relationships are
2 really important. Because it's the working
3 together and the relationships.

4 All of that's really critical.
5 And you can do a lot of that within the
6 framework of these instances. And
7 understanding that within unusual
8 interdependencies and rely upon each other.
9 Really that's the only way of getting things
10 done. And you have to have established those
11 relationships ahead of time.

12 We work very closely with state
13 and local people and should be working with
14 telecom people at the state and local level
15 to help know how to do and get those things
16 done.

17 MR. BARDO: I'll take a point,
18 elaborate on a point I made earlier. When
19 the chairman stated the goals for these
20 hearings was to figure out how to prevent
21 these outages. So you can't prevent the
22 disasters of course but I'll lead back to the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 part, continuity of operations, continuity of
2 government, preparedness and so forth.

3 And I think if I were king for a
4 day I'd look at the agencies and government
5 again at all three levels. And here's --
6 I'll get to the reasons for making this point
7 is to ensure that they have the funding and
8 the guidance, technical guidance and so forth
9 to establish path diversity and resiliency
10 which was the title of this panel in their
11 agency networks.

12 Why is that? Well, during a
13 disaster is when citizens need their
14 government the most. And if the doors are
15 closed because their coms are out, you know,
16 where are we? So just that very one simple
17 point, I'd make that decision and then I'd go
18 back to my day job.

19 MR. ALLEN: Without pointing to
20 any specific laws or regulations I think
21 generally we brought in a lot of resources
22 from outside and a lot of licensing issues

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 with fuel providers and contractors because
2 the impact of the storm was so massive that
3 relying on vendors and third parties locally
4 was difficult. So we did have to bring in
5 security. Our generators were being stolen.

6 And there were licensing issues in
7 fuel, and there were licensing issues to try
8 to find fuel providers who could provide fuel
9 into the city. That was a little bit
10 problematic, something to look at and
11 certainly restrictions to be able to share
12 information that would be relevant for
13 recovery efforts.

14 HON. CHIVUKULA: I'm already a
15 legislator. One of the things we need to
16 think about when a disaster happens first you
17 want to come up with a disaster recovery
18 plan. I think there should be a mechanism to
19 turn off some of the local zoning laws
20 because when you have an emergency and
21 they're prohibiting -- that's one thing we
22 definitely need to look at.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 The second thing you need to think
2 about is the cell tower siting. Because this
3 -- we shouldn't be building so many cell
4 towers all over the place. We should figure
5 out a way to co-locate some of these
6 antennas. And also the cooperation that's
7 put in place between AT&T, T-Mobile during
8 Katrina that where they could use their
9 switching facilities. So you should then
10 create -- when there's a disaster recovery is
11 taking place you should allow more
12 cooperation. I know the laws of collusion
13 around that but I think we need to figure out
14 a way how to create that redundancy and
15 application so that way you are able to --
16 the power that are knocked down when they
17 have a situation -- then you should be able
18 to use alternate carrier to be able to send
19 the signal. I think that would help a lot.

20 COMMISSIONER ROSENWORCEL: One
21 other follow-up. Sorry. Okay, a quick
22 question. New York and New Jersey are

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 unique. The population is so dense. The
2 buildings are so tall they reach the sky. So
3 I'm wondering if there are any real estate or
4 landlord issues that come up with disaster
5 recovery. Making sure you get access to your
6 equipment. Making sure the equipment is
7 placed in locations it's safe. Anything on
8 that topic we should be thinking of?

9 MR. GERACE: I don't think there
10 was anything that we couldn't overcome
11 quickly. To a previous question there's
12 always little things that may be a nuisance,
13 you know, like payroll taxes for workers
14 coming from out of state. Fuel that we can't
15 import to the state because we just are not
16 allowed to bring it over the border, that
17 sort of thing got in the way. But I will say
18 that during Sandy we didn't let any of that
19 stuff slow us down.

20 Your specific landlord issues, you
21 know there is always someone you can't find.
22 And you need to find them during a crisis

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 like this. For the most part we need to do
2 better.

3 MR. LEV: Unless any panelist
4 wants to answer question go to Commissioner
5 Pai.

6 COMMISSIONER PAI: Thank you,
7 Sean, and thanks again to the witnesses for
8 their testimony. The first question would be
9 for Mr. Gerace. You suggested several times
10 that Verizon replaced a lot of the aging
11 copper with fiber and that that had a lot of
12 advantages for the network. I was wondering
13 if you could expand in a little more detail
14 as to the physical characteristics of the
15 fiber that make it more resilience make it
16 easier to restore compared to some of the
17 legacy copper.

18 MR. GERACE: There's a lot of
19 advantages starting with made out of glass
20 versus metal. So it's not susceptible to
21 really salt water issues which is what really
22 devastated the cables here in Lower

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Manhattan.

2 We made the decision really
3 quickly to pull all of that copper plant out
4 of the street because even if we were able to
5 restore it it would fail over time because of
6 the corrosive nature of salt water. We did
7 not see that at all with fiber that we had in
8 the same streets. In fact, very resilient,
9 went right back up when the switches came
10 back. And I think for the long term it's
11 absolutely the way to go.

12 The other thing that it doesn't
13 get a lot of play is it's not brittle like
14 copper. So, just from wind where it's an
15 aerial fiber does not break as often as
16 copper. So it has advantages there. So,
17 we're very confident that networks the that
18 were being rebuilt over the last 100 days
19 will be much better off for the future
20 storms.

21 COMMISSIONER PAI: Thanks. If I
22 could follow on that a comment that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Assemblyman Chivukula made. In your opening
2 remarks you talked about some of the legal
3 and policy issues you saw that were
4 implicated by the mandate either from the FCC
5 or from somebody else with respect to backup
6 power. I was wondering if you could discuss
7 in a little more detail some of the issues
8 you talked about. You mentioned briefly, for
9 example eminent domain and zoning.

10 HON. CHIVUKULA: Thank you. From
11 what I heard, I don't operate a business, I
12 hear from the carriers, New York City, for
13 example, was that they were required to have
14 backup generators. And so on emergency basis
15 you can come up with an emergency generation.
16 That is one of the things.

17 Power is the critical thing. If
18 we can have power we can have a lot of
19 things. And also if you are mandating some
20 of the law, saying that you have three sites,
21 cell sites should have emergency power then
22 you have to make sure that that site has

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 enough space to have that kind of equipment
2 and space for the equipment to ensure that
3 you're not violating some of the local laws.
4 I think that that's the major thing.

5 This is where the federal
6 government has to work with the federal
7 government -- a state like New Jersey is a
8 home rule state and a lot of the laws --
9 everything has to go before the zoning board.
10 And I have sat through some of the zoning,
11 not as a member, but as the public, and
12 listen -- it goes into the early morning
13 hours. And people say why the don't want
14 cell tower to be sited. And then people are
15 looking for cell phone tower. They say how
16 come I have a dead zone or I cannot have
17 coverage.

18 And so I think this is where a lot
19 of the education. I think FCC instead of
20 saying that you can go ahead and put the
21 towers wherever you want for the carriers but
22 you need to educate the public. I mean

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 without the towers you are not going to have
2 the signal. If you don't have the signal you
3 don't have the power. I think that's the
4 thing.

5 Another thing to think about also.
6 I don't know if it's already existing, some
7 kind of a geographical information system
8 that can come up with all the sites. And
9 then that way you can be able to work with
10 the carriers, foster some cooperation between
11 the carriers in terms of co-location and
12 providing redundancy.

13 COMMISSIONER PAI: Thanks. And
14 Mr. Comer, you assessed some of the issues
15 involved in coordination with some of your
16 partners on the communications side. I
17 believe you said that it would be difficult
18 if not impossible to coordinate with them
19 unless you went through FEMA, is that
20 correct?

21 MR. COMER: What I said is I think
22 that coordination has to be done at many

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 levels. Certainly at the federal level,
2 FEMA, you know, all that seems to be about
3 fuel issues. We heard DOE was dealing with
4 them at the federal level. We certainly had
5 those issues.

6 But I think in terms of the
7 specific restoration issues it's really a
8 state and local issue. I mean it's not a --
9 it involves municipalities, police forces,
10 and it gets down to the state and local
11 issue. So they're all important to
12 coordination. And the informal coordination
13 is important too.

14 COMMISSIONER PAI: Very quickly.
15 I heard a very interesting discussion before
16 the panel started in which you said that
17 consumer expectations now are actually higher
18 with respect to power precisely in the case
19 of the technological advancements in terms of
20 apps that show you where power is out in
21 certain areas. I was wondering if you could
22 just elucidate that point.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 MR. COMER: Let me make that
2 point. We have noticed since Katrina our
3 companies down there indicated customers were
4 five days where they lost patience. There
5 was a recent storm down there and they said
6 that's down to about 3 days. And our
7 experience and it is in large part because
8 everybody relies on electricity and telecom.
9 Is people talk to each other, you know,
10 electronically, smartphones and all of that.
11 They're very dependent on it and their
12 patience is lower. We try to
13 respond realtime. Most utilities have the
14 kind of maps that I think Jim was talking
15 about that will show outages and try to
16 communicate electronically to our customers,
17 to keep them informed. But we are living in
18 much more of a realtime world. But it has
19 affected our customer interactions.

20 COMMISSIONER PAI: Thank you.

21 MR. LEV: Thank you. Chairman
22 Genachowski?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 CHAIRMAN GENACHOWSKI: Thank you.
2 Mr. Gerace, I had a chance as you know to
3 visit your facilities, the backhaul
4 facilities, the central office. And the
5 devastation really was just incredible. Hard
6 to believe. Four floors of equipment
7 completely covered by water for a couple of
8 days. And when you see it it's hard to
9 believe you were able to provide any service
10 at all.

11 And I also had a chance to meet
12 another of people who had been working around
13 the clock for several days, away from their
14 families, going out in the field, risking
15 their lives. And that's true for a number of
16 these different companies. And so we all
17 commend that.

18 I did want to ask you to respond
19 to some of the points we heard on the first
20 panel, we heard from the city manager of Long
21 Beach and the representative from New York
22 City that while their communications

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 facilities were up and running they could
2 communicate with each other they couldn't
3 reach their constituents. They couldn't
4 reach consumers. They were not satisfied at
5 all with the level of service as well as the
6 outages during the storm and after for a
7 period of time.

8 And we also heard that they had
9 issues knowing who to reach at Verizon and
10 coordinating on recovery and in general not
11 having good enough information, good enough
12 visibility about what was going on. And so I
13 wanted to ask you for your response to that.

14 MR. GERACE: Thanks for the
15 opportunity. As far as communication issues
16 between the town and Verizon I really don't
17 understand what happened there because we did
18 have an account manager on that who was
19 talking to the towns. Maybe that didn't
20 filter up to Mr. Schumer.

21 But I will tell you that we had
22 two COW equivalents in their town within 5

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 days. And the only reason it took 5 days was
2 access to that area. Getting passable
3 streets, that sort of thing.

4 So one full COW and a repeater
5 system was installed in Long Beach on the
6 fifth and the sixth. So right away we knew
7 even before we talked to the town because we
8 know when cell sites are out that they needed
9 something to augment the signal out there.
10 We knew the about the devastation.

11 So, even before we made contact
12 with the town we were moving resources
13 towards there that couldn't get there
14 quicker. I don't think it's anyone's fault.
15 We would have liked to have it up the day
16 after the storm but it just wasn't possible.

17 CHAIRMAN GENACHOWSKI: Power. The
18 interdependence of the communications grid,
19 the electric grid was a big subject of the
20 first panel that's coming up here. Let me
21 ask you this also, representative from Time
22 Warner Cable and others from the panel. What

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 do you need from our electric grid to provide
2 the level of communications service for
3 people and businesses in connection with
4 Sandy and storms like that?

5 MR. ALLEN: I think it's just
6 timely information because we're ready to
7 respond. And we need to focus our resources.
8 And that's the biggest issue. And our
9 colleague in the OEM was overwhelmed with
10 requests and we recognize that. But it would
11 be incredibly helpful. So it's really, it's
12 primarily information and us being able to
13 get information timely and accurate
14 information.

15 CHAIRMAN GENACHOWSKI: A question
16 on that. What do you need to know about what
17 the duration of power outages is likely to be
18 during a storm? I assume your preparedness
19 is different if you're assuming a day of
20 power outage versus a week. And how can you
21 plan the redundancy and facility backup that
22 you need without visibility into what our

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 power grid will provide?

2 MR. ALLEN: Yes, so our efforts in
3 responding are independent but they are
4 essential to have the coordination. So our
5 efforts to respond are looking at potential
6 impacts of what's coming with the storm or
7 any crisis for that matter.

8 The advantages to being able to
9 coordinate with the power companies are we do
10 have limited resources where they're coming
11 in and the amount of impact that's happened.
12 So if we understand where recovery efforts
13 are going to be prioritized or where they're
14 not going to be able to prioritize it'll help
15 us focus.

16 So I think it's, you know, one,
17 timeliness of the information, you know, what
18 we can prioritize. But two, it also allows
19 us to be able to better communicate to our
20 customer base on expected recovery times.
21 And we are in places where we are providing
22 for recovery efforts where the power

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 companies that are -- like Verizon was doing.
2 We do have to be careful obviously with
3 downed power lines to make sure that they
4 were coordinated.

5 Another thing that's critical too
6 is as they recover, the power authorities
7 recover from crisis at times we see
8 significant damage to our fiber lines when
9 they are recovering as they're taking trees
10 down. So being able to work side by side
11 with them to identify what a critical line,
12 what are critical fiber lines for us would be
13 very helpful. It would minimize outages
14 moving forward. In our time we see more
15 damage post crisis.

16 CHAIRMAN GENACHOWSKI: Mr. Comer,
17 let me ask you. We've heard consistently and
18 we all know this as consumers and businesses
19 that communications is essential to our
20 everyday lives in communicating with family
21 and businesses and particularly essential
22 during emergencies. And we're all very

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 clearly aware now that our communications
2 grid relies on our power grid.

3 What should communications
4 providers assume about what will happen in
5 disasters with their power grid? Will we see
6 a response to Sandy so that communications
7 companies can say well, that's not going to
8 happen again? Or do the communications
9 companies have to build into their planning
10 an assumption that the kinds of outages that
11 we've seen in Sandy and in derecho and other
12 events are a part of the landscape and given
13 the importance of communications they have to
14 assume that what has happened will continue
15 and prepare for that?

16 MR. COMER: I think that everybody
17 has to assume that bad things happen and you
18 have to be prepared for that. And we always
19 have different kinds of storms. Sandy was
20 particularly a bad storm and it was a very
21 bad storm. We've seen a number of bad
22 storms.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 But you're never know when they're
2 going to happen or where they're going to
3 happen but you've got to be prepared with
4 advanced planning, you know, planning and
5 coordinating. You've got to have a
6 reasonable amount of backup assuming you
7 never know quite what the worst case is but
8 you have to be prepared for that. Just as we
9 have to -- and we don't know ahead of time
10 anymore than anybody else when the storm is
11 going to hit or exactly what kind of impact
12 the storm is going to have.

13 So you have to both as we heard
14 earlier be prepared and have your system as
15 resilient and as strong as you can afford to
16 do so. And our affordability is constrained
17 what our PUCs are willing to approve. You
18 have to be prepared to do that.

19 You have to be prepared to have
20 reasonable opportunities that bring in a
21 recovery team and have what we heard earlier,
22 the flexibility to respond in the situation

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 on the ground once you've determined what it
2 is.

3 Each situation is unique and when
4 people say everybody asks us when are you
5 going to recover. Whether it's Person A or
6 Business A or B. We have priorities that are
7 related to health and safety but primarily --
8 but we don't have the flexibility of
9 controlling the electric system with the
10 precision that the telecom system works.

11 And most of our priorities for
12 recovery are determined once we know where
13 the damage was and what was damaged. And the
14 priorities that we try to bring up the most
15 amount of people you can and the quickest
16 amount of time and least effort. That tends
17 to be your transformers and those kinds of
18 stations and your main feeder lines. And the
19 lowest priorities are one or two people out
20 at the end of the wire.

21 You learn things through the
22 process. We've been implementing SmartGrid

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 and the administration has been very helpful
2 about that. About one-third of the nation
3 now has smart meters that again is a telecom-
4 dependent system. It gives us much better
5 realtime information and has helped us
6 expedite recovery.

7 In the South, in Alabama there
8 were some tornadoes went through and our
9 Southern Company which had smart meters in
10 Tuscaloosa could immediately track the area
11 of the damage led by just seeing where the
12 meters were out. You're all used to that in
13 the telecom system but that's new for us.
14 But it really helped. And we're trying to
15 get better all the time to get people
16 information about recovery. You do the best
17 you can.

18 CHAIRMAN GENACHOWSKI: Thank you.

19 HON. CHIVUKULA: If I may.

20 CHAIRMAN GENACHOWSKI: Please.

21 HON. CHIVUKULA: One of the -- I
22 held a number of hearings on the power

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 companies and customers. One of the things
2 that strikes me is that the outage systems, I
3 know there are different systems. They aren't
4 really able to integrate that information
5 that provide that is -- that you're able to
6 get that information. So that information
7 has to be communicated with carriers,
8 communication companies. So that's what we
9 need to focus on for every outage reporting
10 and collecting the data, integrating the data
11 that is usable.

12 CHAIRMAN GENACHOWSKI: Thank you.
13 Well, this is an ongoing serious process of
14 coordination and we very much appreciate each
15 of you coming, sharing your thoughts,
16 responding to questions. And we'll continue
17 to appreciate that because we'll need your
18 ongoing engagement in order to determine what
19 the lessons are from Sandy and what the
20 smartest things that all of us in our roles
21 can do to prepare for the future and avoid
22 the kinds of outages that we saw in Sandy.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Thank you very much.

2 (Whereupon, the foregoing matter
3 went off the record at 12:06 p.m.)

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19