

U.S. FEDERAL COMMUNICATIONS COMMISSION

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CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU

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NATIONAL HEARING ON THE RELIABILITY AND
CONTINUITY OF COMMUNICATIONS NETWORKS

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TUESDAY
FEBRUARY 5, 2013

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The Field Hearing convened in the
Babbio Center De Baun Atrium, Stevens
Institute of Technology, River Street,
Hoboken, New Jersey, at 2:00 p.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 THREE

DAVID TURETSKY, Moderator, Chief, Public
Safety and Homeland Security Bureau, FCC
CHUCK BELL, Consumers Union
DAVE DAVIS, President and General Manager,
WABC-TV
JOHN HOGAN, CEO, Clear Channel
EMILY RAHIMI, Manager of Social Media, New
York Fire Department
NIGEL SNOAD, Product Manager, Google.org

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Crisis Response

PANEL FOUR

SEAN LEV, Moderator, General Counsel, FCC

DAVID DODD, Chief Information Officer,

Stevens Institute of Technology

BRIAN FONTES, CEO, National Emergency Number
Association

PROFESSOR SHIV PANWAR, Polytechnic Institute
of New York University

PAUL ROTELLA, New Jersey Association of
Broadcasters

BILL SMITH, President of Network Operations,
AT&T

ALSO PRESENT

DAWN ZIMMER, Mayor, Hoboken, New Jersey

GEORGE P. KORFIATIS, Provost, Stevens
Institute of Technology

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- Chuck Bell, Consumers Union
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Panelists:

- Brian Fontes, National Emergency Number
Association
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- Professor Shiv Panwar, Polytechnic Institute
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- Bill Smith, AT&T
- Paul Rotella, New Jersey Association of
Broadcasters

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

2 2:19 p.m.

3 MR. KORFIATIS: I'd like to
4 welcome you here to Stevens and welcome those
5 also that they're listening on the live
6 webcast of this event. My name is George
7 Korfiatis and I'm the provost, the university
8 vice president here at Stevens.

9 And this is a great event. So
10 all of us who were here, especially in New
11 Jersey during the Superstorm Sandy perhaps
12 specifically those that were in Hoboken
13 during that period of time experienced the
14 serious impact caused by the widespread
15 disruption of critical infrastructure and
16 especially our communications functions.

17 I had the good fortune of being
18 the commander of our emergency management
19 team here on campus. And I say the good
20 fortune because they're telling me that this
21 was a once in a lifetime event and I don't
22 have to do it again. So it was indeed a once

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1 in a lifetime experience.

2 We had -- we lost power for 8
3 days here on campus. The fact that we did
4 not lose our critical communications function
5 was not because of the elegant design of our
6 communication networks nor its resiliency.
7 It was simple. It was pure luck. And we had
8 to care for the safety and well-being of
9 about 1,200 students on our dormitory
10 facilities 400 of which were in rented
11 apartments at the back of town which remained
12 flooded for 6 days.

13 Our IT infrastructure came to the
14 point to depend on our staff charging battery
15 packs remotely and bringing them back and
16 forth to keep critical nodes going. We were
17 routinely putting out at least three
18 communications per day to more than 5,000
19 students and their families, some of them as
20 far as away from here as China. I just can't
21 imagine how it would be if we were unable to
22 have our communications infrastructure up.

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1 However, much of Hoboken as well
2 as countless communities throughout the tri-
3 state area fared much worse. When disaster
4 struck our failure to protect our critical
5 infrastructure and especially communications
6 networks put citizens in danger, impeded
7 emergency efforts and slowed up the recovery
8 efforts.

9 At Stevens, our mission is to
10 contribute solutions to serious global
11 problems through technology-centric research
12 and education. It is therefore our honor to
13 host this important event organized today by
14 the Federal Communications Commission and to
15 welcome FCC Chairman Julius Genachowski for
16 the second time on campus I think, right?
17 Welcome back, Chairman, and our other
18 distinguished guests on campus.

19 With the help of a notable panel
20 of experts from scientists and engineers to
21 wireless providers to public officials to
22 emergency personnel this hearing opens a

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1 critical dialogue about national
2 communication and connectivity issues exposed
3 by the storm that we just had.

4 In the next couple of hours our
5 hope is to uncover some innovative ways to
6 strengthen and improve network resiliency for
7 the next time we face a crisis of this
8 magnitude.

9 I'd like to extend a special
10 welcome again to the FCC Chairman Genachowski
11 and the three FCC commissioners in
12 attendance, Mignon Clyburn, Jessica
13 Rosenworcel and Ajit Pai. Welcome to
14 Stevens.

15 I'd also like to personally
16 welcome our own mayor of Hoboken Dawn Zimmer.
17 And I'll say a couple of words. Under the
18 mayor's tenure -- Dawn's tenure as the mayor
19 of Hoboken Stevens and our city have had a
20 tremendous partnership, a tremendous
21 partnership. And it is really magnificent to
22 see how the storm brought the community

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1 together and strengthened that partnership.
2 So I think Dawn is going to have some remarks
3 for you. So Dawn Zimmer, the mayor of
4 Hoboken.

5 (Applause)

6 HON. ZIMMER: Thank you so much.
7 Good afternoon, Chairman Genachowski and
8 commissioners and Stevens faculty I know is
9 here and students. Thank you so much to the
10 panelists who are here. I know that there's
11 many members of the public including members
12 of our CERT team who are here with us. We
13 really appreciate you being here.

14 Again I'm Mayor Dawn Zimmer and
15 it's an honor to welcome all of you to
16 Hoboken. And I want to thank Stevens for
17 hosting us, Stevens students for the
18 phenomenal volunteering that they did through
19 the storm. And I want to thank the
20 commissioners and the chairman so much for
21 holding these hearings to learn about the
22 communications problems that arose as a

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1 result of Superstorm Sandy.

2 I'd like to briefly highlight
3 some of the challenges that we faced here in
4 Hoboken. When Sandy hit the Hudson River
5 flowed into Hoboken from both the north and
6 the south. This was unprecedented. It's
7 never happened before. It flooded more than
8 half of the city including three of our
9 substations leaving more than 90 percent
10 without power.

11 Communications under these
12 circumstances was an enormous challenge. We
13 continued to use our website, email and text
14 blasts and press releases to try to get
15 information out to our community. Social
16 media proved to be incredibly helpful. And
17 just the first week after Sandy struck we
18 sent out more than 500 Tweets answering
19 residents' individual concerns and quashing
20 so many rumors that were flying all over the
21 place. And we did the same through Facebook.

22 But soon after we lost power

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1 cellular access was spotty at best and in
2 many cases nonexistent. At times my staff
3 had to drive to the other end of town where
4 we knew there was better reception just to
5 update our website and to send out a press
6 release. Phone calls from cell phones were
7 almost out of the question. Text messages
8 sometimes eventually went through. And all
9 but one of our land lines in our emergency
10 operations center stopped working at some
11 point.

12 Residents on the few blocks that
13 did have electricity, we want to thank them
14 for stringing out their power strips on their
15 stoops so their neighbors could come and
16 charge up their cell phones. Some who were
17 trapped inside their homes by the flooding
18 managed to charge their homes in their cars
19 and their garages. And those that were able
20 to reach thousands who somehow found a way to
21 get online for many phone and text and
22 internet access were no longer options.

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1 So we basically, we had to get
2 back to basics. Like all forms of -- even
3 though there was a lot of media attention on
4 Hoboken we still, to reach half of our town
5 we had to very much get back to basics. So
6 on a daily basis we had thanks to the
7 coordination with the CERT team and Stevens
8 volunteers we had hundreds of volunteers
9 going out hosting daily updates in English
10 and in Spanish throughout the city. We
11 placed a big white board that was constantly
12 updated in front of City Hall.

13 And then we also had using
14 markers to write on store windows or glass,
15 the sides of bus shelters we had volunteers
16 acting as runners to update 10 different
17 board locations throughout the city. At my
18 director's meeting this morning we were
19 talking about the possibility of a board that
20 could be powered by solar power that could be
21 sort of updated. But that was -- we had to
22 go back to the basics of just being able to

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1 give people literally a place to look and see
2 the update.

3 What I did was I did updates
4 every day in front of City Hall. And we
5 would have hundreds of residents coming to
6 receive an update both for the residents and
7 for the press.

8 We also had challenges with our
9 emergency communications networks. At one
10 point PSE&G advised me they were about to
11 power up one of the substations. Then I got
12 a call from my fire chief saying, Mayor, the
13 911 system is down. I had to call back PSE&G
14 immediately saying hold off until further
15 notice. And it took about an hour to get the
16 911 system back up and running so that we
17 could then energize the substation. But it
18 was a major concern that there could
19 potentially be fires and we would have no way
20 of knowing it. Obviously as many of you know
21 I'm sure that there's an increased chance of
22 fires as those substations are powered back

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1 up.

2 I'm extremely thankful that
3 through the storm despite these enormous
4 challenges that we faced because of the first
5 responders, the CERT team, Stevens volunteers
6 and volunteers throughout the community we
7 had over 5,000 volunteers that we were able
8 to keep everyone safe in Hoboken.

9 And so I really, really
10 appreciate this panel coming together and the
11 chairman organizing this so that we can look
12 more deeply at what can be done to improve
13 the communications for the future. I mean it
14 was a major risk but luckily for Hoboken we
15 did not lose any of our residents. But there
16 was definitely a risk out there.

17 And I look forward to hearing
18 this panel discussion. And I hope that going
19 forward changes will be made so that in the
20 future as we face these storms again in the
21 future we will be able to keep our
22 communities safer. Thank you very much.

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1 (Applause)

2 MR. GOLDBLATT: Chairman of the
3 FCC, Julius Genachowski.

4 CHAIRMAN GENACHOWSKI: Thank you,
5 everyone, and welcome to the third panel of
6 our hearings today on lessons to be learned
7 from Sandy and how to ensure the reliability
8 and resilience of our communications
9 networks. We had two panels this morning
10 across the river in Manhattan and we're very
11 pleased to be here now in New Jersey for what
12 my colleagues are sure will be a productive
13 session this afternoon.

14 It is not my first time here at
15 Stevens. What a wonderful institution.
16 Thank you for hosting the FCC again. It's
17 always a pleasure for me to be back in this
18 region. This is the region where I'm from.
19 I did grow up across the river but it was in
20 the region and I went to high school and
21 college in this area.

22 I spent time back in those days

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1 working on an ambulance as an emergency
2 medical technician in Manhattan. Now, one of
3 the things you learn very quickly when you're
4 anywhere near emergency services is how vital
5 communications are.

6 And this was the nineteen
7 eighties and it was before iPhones, it was
8 before Blackberry's, it was before mobile
9 service was prevalent. It was before the
10 internet, it was before social media.

11 And we're here today in part
12 because we see the enormous opportunities
13 that these technologies have to improve
14 emergency services. We see how essential all
15 of these communications services and devices
16 are to our everyday lives, staying in touch
17 with family, working at or running our
18 businesses and of course emergency services.

19 A central reason we're holding
20 these hearings is because Sandy revealed just
21 how essential it is to have communications
22 service available when we need it the most,

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1 during times of emergency and disaster.

2 And as we heard from the mayor,
3 as we've heard from so many of you, as we
4 heard on the panel this morning there were
5 real issues that we all have a responsibility
6 to roll up our sleeves as we're doing today,
7 identify what went wrong, how to fix it, and
8 also identify what went right and what we can
9 learn from.

10 I'm going to ask each of my
11 colleagues to say a few words before we jump
12 into the session. David Turetsky will
13 moderate the session. David is the chief of
14 our Public Safety and Homeland Security
15 Bureau. He oversees one of the most
16 important bureaus at the FCC focusing on
17 public safety communications. And I do want
18 to acknowledge the extraordinary work of
19 David and his team around the crisis of Sandy
20 and other crises like the derecho.

21 We run at the FCC a 24/7 ops
22 center that kicks into effect. Actually it's

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1 24/7 all the time. But as storms like Sandy
2 emerge we launch various processes to gather
3 information to coordinate with FEMA and state
4 and local authorities about the state of our
5 communications networks.

6 We do a tremendous amount of
7 problem-solving during emergencies and as
8 part of recovery. And so under David's
9 leadership working with broadcasters, mobile
10 operators and others we help make sure that
11 fuel got to where it's needed. This is an
12 issue that will come up this afternoon. It
13 came up this morning, how can we improve that
14 in the future.

15 We provide temporary
16 authorizations for TV and radio broadcasters
17 and others to continue service, to switch
18 antennas, whatever needs to be done. We work
19 with state and local authorities to see if we
20 can all work together to remove barriers to
21 ensure that recovery personnel at telephone
22 and cable companies, for example, have access

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1 to sites so that they can do recovery.

2 And this is part of the work that
3 at the Commission we're all very much
4 committed to to harness the opportunities of
5 technology for public safety communications.

6 In the last couple of years
7 thanks to my colleagues and David and his
8 team we've done some very strong work to
9 enable text to 911 moving as quickly as we
10 can in that direction. We've launched
11 wireless emergency alerts which were used
12 during Sandy by local authorities to send
13 text alerts to people warning them, directing
14 them, giving them information.

15 There's a tremendous amount of
16 good work that's been done but there's no
17 question that there's more that needs to be
18 done. That's what we're here to discuss
19 today.

20 I want to thank each of the
21 panelists for giving us their time and their
22 thoughts. I hope we warned you that it's not

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1 just this hour on the panel that we'll need
2 you, but we'll need you on an ongoing basis
3 as we follow up with you on the issues that
4 come up today.

5 So thank you again to Stevens, to
6 Hoboken, to the people of Hoboken. We're
7 looking forward to a productive afternoon.

8 Let me introduce Commissioner
9 Clyburn who will hand it off to Commissioner
10 Rosenworcel, Commissioner Pai and then David
11 and we'll get going with the hearing.

12 COMMISSIONER CLYBURN: To our
13 distinguished panelists and to our audience,
14 good afternoon. I'm from the South so good
15 afternoon. Thank you. Thank you, Mayor
16 Zimmer, Provost Korfiatis for those opening
17 remarks. And on behalf of the Federal
18 Communications Commission I wish to also
19 express my gratitude to the Stevens Institute
20 for making it possible for us to hold this
21 forum on the impact of Superstorm Sandy on
22 our communications networks and the consumers

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1 who rely on them.

2 At the FCC we are afforded the
3 incredible privilege of having a front row
4 seat to some amazing developments in
5 information technology. And I can say
6 without any doubt that we have a lot to feel
7 optimistic about when it comes to the
8 communications industry, when it comes to
9 what it can accomplish.

10 But when we are hit with major
11 weather events such as Superstorm Sandy we
12 are humbled and reminded that despite all of
13 these great advances we still as a nation
14 remain quite vulnerable. Our thoughts and
15 prayers remain with all of those who suffered
16 the loss of loved ones and the loss of
17 property during Superstorm Sandy.

18 I commend the efforts of first
19 responders as well as ordinary citizens who
20 demonstrated unprecedented charity towards
21 their neighbors and communities.

22 I was in Moncks Corner, South

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1 Carolina in September of 1999. During
2 Hurricane Hugo I was balled up in a dark
3 corner near other family members who escaped
4 from Charleston. We thought it was an
5 escape. Listening, however, to
6 the first trees I ever loved being broken
7 like toothpicks. I sat in fear as my
8 grandmother's tin roofs from the barn,
9 smokehouse -- we have smokehouses down there
10 - and parts of her house were being pulled
11 away by what at the time seemed to me like a
12 heartless hand of a giant.

13 So while the extent of Sandy's
14 power and destruction were an unprecedented
15 event for this region most of us have
16 firsthand felt the tragedy wrought by natural
17 disasters. We may not be able to prevent
18 them from occurring but what we can and must
19 do is improve our ability to respond.

20 Throughout the Sandy weather
21 event we heard several reports about how
22 federal, state and local governments as well

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1 as industry were engaged in extensive
2 coordination to restore important services
3 and infrastructure to communities.

4 I understand that the New Jersey
5 Broadcasters Association was instrumental in
6 working with FEMA and the FCC to help
7 broadcast stations stay on the air. These
8 stations were vital to providing information
9 to communities.

10 As communications regulators we
11 must do all within our power to prepare our
12 wired and wireless communications networks,
13 911 systems and other infrastructure for
14 future weather or other unexpected events
15 which are sure to follow. We must and will
16 do more to provide relief to those who for
17 more than 2 months after Sandy are still
18 homeless or living without power. We must
19 and will do more to prepare our wired and
20 wireless communications networks, 911 systems
21 and other infrastructure for future weather
22 events.

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1 So I applaud Chairman Genachowski
2 for his all hands on approach and for
3 recognizing and declaring early on that the
4 Commission would come to New York and of
5 course Hoboken, New Jersey, and other parts
6 of the nation to learn about the various
7 challenges we face with the reliability of
8 communications networks and preparing for
9 natural disasters.

10 I look forward to the panelists'
11 testimony and recommendations on these and
12 other related policy areas. Thank you so
13 very much. And at this time I will introduce
14 to you and present to others Commissioner
15 Jessica Rosenworcel.

16 (Applause)

17 COMMISSIONER ROSENWORCEL: Good
18 afternoon, New Jersey. It is terrific to be
19 here in Hoboken and in this beautiful setting
20 at the Stevens Institute of Technology. But
21 we are here to talk about something a little
22 less beautiful and that was the aftermath of

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1 Hurricane Sandy.

2 Now I've only been a commissioner
3 at the FCC for some months but during that
4 time we have had more than our fair share of
5 natural disasters, Hurricane Sandy included.
6 These events not only caused immeasurable
7 hardship on those directly affected, they
8 also wreaked havoc with our communications
9 systems. And while we may not
10 know with precision what the next storm or
11 disaster brings we do know we must learn from
12 what came before. So it's my hope that today
13 we can take away lessons and bring home facts
14 that will help make our nation's networks
15 more resilient and the American people more
16 safe.

17 So I have made it a practice when
18 I travel around the country to visit public
19 safety communications facilities. And
20 without question the most powerful visits I
21 have had are those made in the aftermath of
22 storms.

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1 So following this fall's
2 Hurricane Sandy I toured a telecommunications
3 central office in Lower Manhattan to see the
4 impact of the storm. Weeks after the flood
5 waters had receded from the streets the
6 subterranean rooms where our networks come
7 together were still damp. Technicians rushed
8 this way and that trying to make sense of an
9 impenetrable snarl of lines and the harm done
10 to so many submerged switches and servers.

11 I will never forget the post-
12 apocalyptic look of the facility. It is only
13 one image of a storm with an infinite number
14 of images of horror.

15 But I will also take away from
16 that visit an image of extraordinary hope.
17 The sheer energy and dedication of those
18 working to repair the damage was nothing
19 short of amazing.

20 Following Hurricane Sandy I also
21 visited several towns down along the coast of
22 New Jersey. The storm surge propelled sand

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1 dunes blocks beyond beachfront neighborhoods
2 with a cruel disregard for cars and houses in
3 the way.

4 A police chief in one town
5 described how other towns had their
6 communications knocked out for days. The
7 mayor and a public safety official in another
8 described the disaster in chilling detail but
9 also noted that without extensive outreach
10 early on including from broadcasters and
11 social media it would have been much worse.

12 So in the end from your trials
13 and hardships we have an opportunity to
14 learn. We have an opportunity to understand
15 how well our 911 centers responded. We have
16 an opportunity to understand if
17 communications systems used by our police,
18 fire fighters and other first responders
19 performed or if they fell short.

20 We have an opportunity to
21 understand what public communication is
22 required in advance of a storm that will help

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1 residents prepare and get the information
2 they need to stay safe.

3 And we also have an opportunity
4 to understand the relationship between
5 commercial power and communications. The
6 relationship between fuel and generators and
7 what it means to stay running when the
8 unthinkable occurs.

9 You know, our data suggest that
10 the wireless towers that were affected by
11 Hurricane Sandy, too many of them went out of
12 service. In fact, one in four was not
13 operable in the aftermath of the storm.

14 Today, one in three households
15 relies exclusively on wireless phones.
16 Wireless phones and those towers are
17 dependent on commercial power. So what
18 happens when the power goes out? How do we
19 ensure that backup power is where it needs to
20 be and that providers have access to fuel for
21 generators? And while we're at it, how do we
22 make sure that consumers are prepared too

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1 with backup batteries or solar-powered
2 chargers?

3 In the end we have an opportunity
4 to learn from your stories and then wrestle
5 some good out of Hurricane Sandy. We need to
6 take the lessons you learned and then apply
7 them more broadly before the next storm hits
8 or disaster devastates.

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

20 Thank you to everyone who's
21 joining us today. I look forward to hearing
22 from you. Let me introduce now my friend and

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1 colleague Commissioner Pai.

2 (Applause)

3 COMMISSIONER PAI: Thank you,
4 Commissioner Rosenworcel, and thank you as
5 well Mayor Zimmer and Provost Korfiatis for
6 the hospitality. Opening up Hoboken and
7 Stevens in particular to us for the
8 examination of these important issues is an
9 honor and we are grateful to you for
10 according us that privilege.

11 For me today's events are about
12 learning and listening. Through this field
13 hearing as well as others that we will hold
14 in the days to come I hope that we will gain
15 a richer understanding of the steps that we
16 can take to improve the performance of our
17 communications networks during natural
18 disasters. Chairman Genachowski, I thank you
19 once again as I did this morning for holding
20 this important hearing.

21 To be sure there is much for us
22 to learn. Our first job of course is to

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1 figure out what happened during and after
2 Superstorm Sandy. Then once we have
3 determined what happened we have to take the
4 lessons that we have learned and look to the
5 future.

6 Of course, there are some things
7 that we already know. For one, we know that
8 improving the resilience of communications
9 networks must be one of our major goals
10 moving forward.

11 Americans, particularly those in
12 New York City are intimately familiar with
13 the slogan too big to fail. Well, simply put
14 our communications networks are too important
15 to fail. That is especially true during
16 natural disasters because the ability to
17 communicate may well be the difference
18 between life and death. So we have to
19 examine what can be done to improve these
20 networks in order to minimize disruptions
21 when disasters strike which inevitably they
22 will.

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1 We also know that reliable power
2 is essential to communications during public
3 safety emergencies. Unfortunately, during
4 Sandy persistent and widespread power outages
5 affected several communications networks. At
6 one point as my colleague Commissioner
7 Rosenworcel pointed out about one-quarter of
8 cell sites across 10 states were out of
9 commission. And a substantial portion of
10 those outages resulted from the loss of
11 power.

12 Backup power can prevent networks
13 from failing but flooding will ruin even the
14 sturdiest diesel generator. Large stockpiles
15 of fuel in urban areas may not be practical.
16 And even the best battery or largest fuel
17 tank will eventually give out. So we also
18 need to ask what steps we can take to avoid
19 power outages in the first place and to bring
20 our communications networks back on the grid
21 sooner rather than later.

22 To do that we may need to bridge

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1 the communication gap between utilities on
2 the one hand and network operators on the
3 other. In Sandy's aftermath, for example, I
4 and others have heard of many complaints that
5 local power companies did not coordinate with
6 network operators. If this is true it simply
7 has to change.

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

17 Just last week I visited a public
18 safety answering point in Virginia and heard
19 firsthand how a single point of failure took
20 down all of their operations last summer.
21 That's unacceptable. But when the IP
22 transition comes to emergency services, when

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1 we start deploying Next Generation 911 all of
2 this will change.

3 In Pike County, Pennsylvania, a
4 short trip from New York City, 911 dispatch
5 moved into a state of the art facility last
6 year. A mere 18 days later Sandy struck.
7 But Pike County 911 reported that the new
8 system held up extraordinarily well. No
9 outages occurred in the 911 center whatsoever
10 even though Pike County itself was without
11 power for a week.

12 One major reason is that Pike
13 County like other Next Generation facilities
14 employs failsafes to ensure that emergency
15 services keep running. Fiber links the two
16 Pike County facilities allowing one center to
17 take over for another in the event of an
18 outage or to handle overflow in mass call
19 events.

20 Mark Fletcher, an expert on Next
21 Generation 911 services, recently pointed out
22 that if you call 911 during a mass call event

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1 you usually get a busy signal. But if you
2 hang up the phone and call your airline to
3 check on your flight you're going to get
4 through. That's because the airline industry
5 among others already is taking advantage of
6 technology that routes calls to the nearest
7 call center with availability rather than to
8 the nearest call center as such.

9 We need these kinds of next
10 generation systems across the country to
11 ensure quick and effective emergency
12 response. That's why upgrading our emergency
13 systems to Next Generation 911 has to be a
14 top priority.

15 Yet another thing we know is that
16 our citizens may not need to contact
17 emergency personnel if they receive timely,
18 thorough information over the airwaves. I'm
19 especially looking forward to hearing from
20 broadcasters and social media experts and
21 others today about their efforts to keep the
22 public safe and informed during the storm.

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1 For example, the New Jersey
2 Governor Chris Christie took to the airwaves
3 on New Jersey's 101.5 show Ask the Governor
4 to provide information and field questions
5 from listeners just as Sandy was making
6 landfall. I'm eager to hear about the
7 efforts of broadcasters and others during and
8 after the storm.

9 Last but certainly not least we
10 know that emergency personnel and service
11 staff who worked on the ground during Sandy
12 deserve our continuing thanks. We rely so
13 heavily on all of you every day for the
14 thousands of thankless tasks you do without
15 any question. And when things got tough
16 during Sandy you made the sacrifice.

17 My mind is drawn to the story of
18 Bob Franco, a Wayne Township police officer
19 who was working Hurricane Sandy and was
20 crushed in his cruiser while he was driving
21 around because a tree fell and pinned him
22 inside. As he felt a numbness envelop him he

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1 said to himself I thought that was it. This
2 was the end of my time on Earth.

3 Fortunately for him one of his
4 colleagues, Captain Mark McGrath, came by and
5 cut the door off his car and managed to
6 extract him. His wife Linda said recently we
7 don't know what the future holds but we
8 praise God that he's alive. It could have
9 been so much worse.

10 I'm happy to report that Bob
11 Franco is recovering. He's in physical
12 therapy. But his wife's statement that
13 things could have been so much worse is so
14 true across this region. It could have been
15 a lot worse but for the efforts of people
16 like Officer Franco. And so my humble thanks
17 go out to him and to all of our emergency
18 personnel for their dedicated service to our
19 communities.

20 In closing I look forward to
21 listening and to learning, to our panelists
22 today. The witnesses we will hear will help

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1 ensure that the Federal Communications
2 Commission both understands the problems
3 caused by Superstorm Sandy and has the
4 information that it needs to move forward.

5 Thank you once again. And I
6 would note that Commissioner Robert McDowell,
7 our fifth colleague, is unavailable to be
8 here because he's testifying on Capitol Hill.
9 But I can assure you that he shares the
10 sentiments of the four of us that we want to
11 understand what happened in the storm and
12 take every measure that we can take to make
13 sure that communications outages don't happen
14 again. Thank you all very much.

15 (Applause)

16 MR. TURETSKY: Thank you. As
17 Chairman Genachowski mentioned I'm David
18 Turetsky. I'm the chief of the Public Safety
19 and Homeland Security Bureau at the FCC. And
20 I'll be moderating the panel this afternoon.

21 I want to first thank my staff in
22 the Bureau for all of the hard work they did

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1 to get this event together as well as the
2 staff throughout the FCC and the other
3 bureaus and offices who contributed as well
4 and who have contributed in responding to
5 Sandy.

6 The theme of this panel is
7 communicating during times of emergency and
8 it focuses on consumers. I'm going to
9 introduce the panelists in a moment and then
10 I will explain the procedure by which we'll
11 go forward in a little while.

12 I also want to just say how glad
13 I am to be back in New Jersey. I grew up in
14 this state. I graduated high school in this
15 state. I lived here for a very long time and
16 my family, much of it still lives here today.

17 And the people of New York and
18 New Jersey who are visiting today much like
19 in a Springsteen song really showed a lot of
20 grit and are still showing a lot of grit.

21 I want to also thank some of the
22 panelists who are based in New York for

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1 coming to New Jersey just as some panelists
2 this morning in New York came there from New
3 Jersey. So together this area is joining in
4 response and in our panels.

5 The panelists for today are John
6 Hogan who is the chairman and CEO of Clear
7 Channel's Media and Entertainment Division.
8 Welcome. Dave Davis who's the president and
9 GM of WABC-TV which is the most watched local
10 news station in the tri-state area. Nigel
11 Snoad who is part of Google's Crisis Response
12 Team. Emily Rahimi who manages social media
13 for the New York Fire Department. And Chuck
14 Bell who is the programs director for
15 Consumers Union based in Yonkers, New York.
16 Welcome to all of you.

17 The procedure will be the same as
18 it was this morning. And for those of you
19 who are joining us afresh now what that will
20 consist of is a question that I will ask to
21 each panelist. They will have up to 5
22 minutes to respond. There's a clock right in

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1 front which hopefully will count down.

2 After we've gone through a
3 question for each panelist and a response
4 I'll turn it over to the commissioners and
5 they will each ask 5 minutes of questions.
6 And if there's any time left which there
7 probably won't be we'll ask some more
8 questions.

9 With that let me proceed. And
10 the first question is to John Hogan. You're
11 primarily in the radio business. Tell us
12 about what your stations did to keep the
13 public informed and to continue operating
14 through Superstorm Sandy.

15 MR. HOGAN: Thank you, David.
16 And Chairman Genachowski and commissioners,
17 thank you for this opportunity to share our
18 story. We own three radio stations in New
19 Jersey and five in New York and take our role
20 as first informers very seriously.

21 We had the benefit of knowing
22 that Hurricane Sandy was coming. We didn't

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1 know where exactly. And so we had to prepare
2 in a number of cities up and down the east
3 coast as is the practice that we have.

4 In New York and New Jersey a
5 number of things took place in advance of the
6 storm. First was that we activated our
7 emergency preparedness plans. All of our
8 radio stations have a plan and that went into
9 action.

10 It starts with making sure that
11 our resources, particularly the backup plans
12 are all in place. We made sure we had fuel
13 for our generators, checked the generators.
14 Also made sure that all of our employees were
15 ready to participate in this.

16 We also activated our disaster
17 assistance and recovery program which is a
18 national support system to those local plans
19 that we have. We have eight DARP sites.
20 Each of those DARP sites has a semi-trailer
21 truck or two full of emergency equipment and
22 backup equipment. We have auxiliary towers,

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1 generators. We also have fuel trucks and we
2 brought those to sort of the far western edge
3 of what we thought the storm area was going
4 to be.

5 That said, the interesting thing
6 about people in radio is that when a disaster
7 is imminent radio people run towards it.
8 They know that they provide a vital function,
9 that oftentimes they are the only source of
10 information particularly when other systems
11 fail. And so they are prepared.

12 We had people who literally
13 camped out at our stations for days. We're
14 housed in New York in the old AT&T Building
15 interestingly enough and we were without heat
16 or power for a number of days. However, we
17 were able to continue broadcasting.

18 In anticipation of the storm we
19 changed our programming. We began to air
20 more weather and more information about how
21 to prepare for the storm. As it became more
22 clear that it was going to hit in New Jersey

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1 and New York we continued to add to the news
2 and weather programming that we had.

3 As the storm hit and passed
4 through we were able to stay on the air the
5 entire time. We did lose a tower in New
6 Jersey but because of the systems that we had
7 in place we were able to switch to auxiliary
8 and never go off the air.

9 In New York we switched our
10 transmission from the Empire State Building
11 to 4 Times Square. Again, the planning and
12 the preparedness that we had in place allowed
13 us to do that.

14 Throughout the storm we went
15 basically wall to wall with news and
16 information and updates letting our listeners
17 know what the situation was. We brought on a
18 number of public officials, gave them the
19 opportunity to share information. And that
20 continued throughout the storm.

21 We had people who were on the air
22 for 10, 12, 14 hours at a time. Our

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1 listeners became an integral part of the
2 program. And we were providing the news in
3 realtime. We would hear from people who'd
4 been affected by trees falling, power going
5 out, flooding and so on.

6 And a big part of our role was to
7 direct our listeners to resources. In the
8 days following Sandy we let them know where
9 sources for food, shelter, fuel and other
10 things were.

11 Interestingly enough we are still
12 doing that today. As a number of people have
13 said the area is still a long way from being
14 fully recovered and we continue to direct
15 people to different resources and to provide
16 relief for those listeners.

17 MR. TURETSKY: Thank you, John.
18 Dave Davis who I believe also chairs the TV
19 committee of the New York Broadcasters
20 Association who we also worked very closely
21 with during the storm as well as the New
22 Jersey association. Dave is president and GM

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1 of the most watched local news station in the
2 tri-state area. Tell us about what you did
3 in connection with reaching the consumers
4 through the seriously affected area. And
5 tell us how the superstorm changed that.

6 MR. DAVIS: Thanks David. Mr.
7 Chairman, commissioners, Mayor Zimmer. We
8 spent a lot of time in Hoboken and saw what
9 you described firsthand so we're glad to be
10 here, glad to be at Stevens. And a chance to
11 talk about broadcasting, television
12 broadcasting during Sandy.

13 One thing about hurricanes as
14 opposed to some other natural disasters, you
15 have a pretty good idea it's coming. We
16 started on October 19, 10 days or more before
17 the hurricane hit. We have four fully
18 trained meteorologists on staff full-time and
19 that's when they started to track this storm,
20 notify our viewers of the potential to this
21 area and continued that.

22 Local news and information is

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1 really the foundation for Channel 7. We
2 regularly program 42 hours a week of live
3 local news and for the week leading up to the
4 storm the potential for the storm really
5 dominated our coverage.

6 So our job was twofold. Number
7 one, to prepare the viewers for what was to
8 come and also to prepare ourselves because we
9 knew if we didn't have our infrastructure
10 complete and storm-ready then any life-saving
11 information we had would not be able to reach
12 our viewers.

13 We have unfortunately a lot of
14 experience in New York City covering
15 disasters. Certainly 9/11 was the worst.
16 But through weather extremes, blizzards,
17 storms, hurricanes we have prepared
18 ourselves.

19 We are self-powered. We
20 certainly appreciate the fact when the power
21 stays on but we prepare ourselves for the
22 worst case scenarios. We have three

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1 generators at our main studio facility on the
2 Upper West Side. We have generators at our
3 main transmitter at Empire State Building and
4 at our backup transmitter on 4 Times Square.
5 We put transmitters on two different
6 buildings after 9/11. We also have ways to
7 directly feed cable and satellite companies.
8 We have a full-time, full recovery site in
9 case we have to lose the ability to broadcast
10 from Manhattan.

11 So during the week before the
12 storm we spent a lot of time testing those
13 systems, the backups to the backups, the
14 transmission lines, the studio to transmitter
15 links to make sure we were prepared.

16 On the Sunday before the storm
17 when the MTA and the Governor decided to shut
18 down the transit system 7 million people a
19 day use mass transit in some form in our
20 area. So, that was a significant enough
21 event that we went on the air continuously at
22 that point.

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1 During the 8 days before, during
2 and after the storm we produced 122 hours of
3 local information, public service
4 information. Everything from forecasts to
5 where the storm surge was, how bad it was
6 going to be, wind speed, all the weather
7 information. Emergency information, where to
8 go, what to do, where to evacuate, where they
9 needed emergency help.

10 Sometimes it was as small as one
11 family trying to locate another family member
12 and our reporter going up 20 flights of
13 stairs to see if somebody was there. Or as
14 large as covering every major news
15 conference, Governor Cuomo, Governor
16 Christie, Governor Malloy, Mayor Bloomberg.
17 Every time they spoke we made sure that we
18 were there to get that information across to
19 people.

20 We have an extensive fleet of
21 satellite and microwave vehicles in order to
22 get information to people. We also knew that

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1 a lot of people had the potential to lose
2 power. So we arranged through our sister
3 company ESPN to supply the content to their
4 two radio stations, AM and FM.

5 We also take advantage of a lot
6 of the digital platforms. We have hundreds
7 of thousands of users on all of our digital
8 sites and the use of those we knew would
9 increase dramatically since people generally
10 can maintain power in their phones or iPads
11 sometimes easier if they lose power.

12 Those are transmission points.
13 Those are ways to reach people. But
14 understand that the content has to be there
15 to make that delivery meaningful. So the
16 content is acquired by our large news staff,
17 by our television broadcasts. So all of our
18 reporters, our crews, the video that they
19 gather, that's what goes onto those digital
20 platforms and to the social media users.

21 So, we've been in that mode and
22 soon after the storm we arranged with our

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1 company, our parent company, the Walt Disney
2 Company to conduct a day of giving and raised
3 almost \$17 million for storm relief.

4 So as John pointed out the
5 mission continues. There's still people
6 impacted here by the storm. And we will
7 continue to cover that.

8 MR. TURETSKY: Thank you, thank
9 you. Now I'd like to turn to Nigel Snoad who
10 is the product manager for Google Crisis
11 Response. In that capacity you provide a
12 product that is intended to inform consumers
13 about emergencies and response. Can you tell
14 us about it and how consumers can access and
15 benefit from it?

16 MR. SNOAD: Thank you very much.
17 Just to start with I'd like to thank the
18 chairman, commissioners and the mayor for the
19 opportunity and just on behalf of myself, the
20 company and a team of sort of professionals
21 and volunteers who have the mission of
22 providing affected populations with

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1 information during crises and emergencies.
2 So that's the start.

3 So what we actually did was it
4 wasn't so much a single product as that we
5 have a whole suite of different products some
6 of which we used during Superstorm Sandy,
7 some of which we didn't. Depends on the
8 situation. And so I mean I could
9 run down a list and talk about we have Google
10 Public Alerts, we have a crisis map that is a
11 mash-up of lots of different content layers
12 that's relevant for people that we adapt and
13 adjust on the fly as we find out what's
14 available, what people need and so forth. We
15 also change and adapt our search results to
16 give people information for what they're
17 looking for.

18 I think it's really important to
19 start with that perspective that the reason
20 we're involved in this is because people come
21 to us to find information. It's sort of
22 almost a truism nowadays but particularly

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1 during crises. And so we see often
2 incredible peaks in queries around a crisis.
3 People are looking for particular things,
4 either about the whole situation or
5 particular situations like in Superstorm
6 Sandy they're looking for gas. Where is gas
7 availability, where are gas outages. And
8 that's something you have to work very
9 aggressively to try and provide good
10 information for. And it's both a public
11 service and just part of our mission and
12 mandate.

13 And so we've taken a number of
14 steps to try and do that better and that's
15 why we have a standing team of professionals
16 who help coordinate across the company to
17 find information and to work with partners
18 like the New York City Mayor's Office, the
19 state of New Jersey, OEM, FEMA and so forth.

20 One of the products that we have
21 -- I'll talk about a couple of them. But one
22 of them is what we sort of call Google Public

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1 Alerts. And the goal of this is to improve
2 our search results in some of our other
3 products with emergency information from
4 official providers.

5 So this was triggered in a way
6 after the Japan earthquakes 2 years ago
7 almost to the day. So looking ahead a month
8 and a half I suppose, a month. Whereby
9 people in Hawaii for instance regularly
10 searched once they'd heard there was an
11 earthquake for information about a tsunami.
12 And that day there was a massive, like
13 hundred times peak in people searching for
14 that. A huge proportion of people in Hawaii
15 searched and the results that we and
16 everybody had that were immediately available
17 actually weren't giving them what they
18 needed.

19 So we've partnered with groups
20 like the National Weather Service, NOAA, U.S.
21 Geological Survey, National Center for
22 Missing and Exploited Children to take their

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1 official alerting information and critically
2 in an open standards-based format because
3 that's what makes it possible to do this. We
4 could -- getting a hold of lots of different
5 information, lots of different formats is
6 just a nightmare to imagine. And take that
7 information, ingest it and then show it when
8 it's relevant to people, when they're
9 searching and on products like Google Now and
10 the latest version of Android it'll suggest
11 information we think you should know
12 including emergency alerts and so forth.

13 So we activated that. It's been
14 running all year last year. But 4 days
15 before Sandy hit we turned it on for web
16 search for when you went to the normal Google
17 search box you could, if you typed "Sandy" or
18 more particularly if you typed "hurricane" or
19 "high wind" you'd actually get the official
20 NOAA National Weather Service alert with a
21 link to more information, maps, news,
22 contextual information and preparedness

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1 information about what to do to keep yourself
2 safe.

3 They of course expired. They're
4 early warnings. So once the storm hits it's
5 actually they're gone. The official alerting
6 providers are past. And what we typically
7 do, and we do this all over the world in
8 large crises is that we built a map and other
9 sort of a box of links to official state
10 information and so forth in search results.
11 And so that if you came to us looking for
12 information we'd give you as quickly as
13 possible a link to the official or the
14 unofficial but really relevant information
15 about everything from gas outages to so
16 forth.

17 And our map where we had more
18 than I think about 40 layers on it from
19 different providers such as we had our alerts
20 but we also had a transit layer we took from
21 working with the MTA. We had gas data that
22 we took from Hess but also some data that we

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1 got through sources in the state of New
2 Jersey and otherwise. And even some
3 volunteer information from various
4 organizations.

5 And the goal with that is to
6 provide a place where you can come as a
7 citizen if you're looking for information
8 just to try and find whatever you can. And
9 critically these are tools that are designed
10 to be embedded and reused by others. Because
11 the goal with this really is to get it out as
12 broadly as possible.

13 I think the right way to think
14 about this from our perspective is that we
15 have this audience who come to us
16 increasingly if you look at the utilization
17 of news versus the internet and broadcast
18 media this transition that we're in the
19 middle of and mobile. And what we want to do
20 is basically provide a channel and be an
21 aggregator for this information from official
22 sources and make it accessible and useful.

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1 MR. TURETSKY: Thank you very
2 much. Interesting. Emily Rahimi. Emily is
3 the manager of social media for the New York
4 Fire Department. I think you played a more
5 important role than you expected in
6 communicating through social media,
7 specifically Twitter, when and the day after
8 Superstorm Sandy hit. Can you tell us about
9 what you did, how it assisted the public and
10 any lessons for the future that you take away
11 from that experience?

12 MS. RAHIMI: Sure. Thank you
13 Commissioners and Mayor for having me here
14 today.

15 The day that Sandy hit I had been
16 planning to do what I normally do in an
17 emergency which is kind of follow the lead of
18 the New York City Mayor's Office and Office
19 of Emergency Management.

20 They generally try to pull
21 together the most up-to-date current
22 information and make sure that all city

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1 agencies share that information with the
2 public to make sure that we have a very
3 unified message and that all of us are giving
4 out very accurate information because we
5 would hate to be giving out false
6 information.

7 And for the morning of the storm
8 that's what I was doing. I was putting out
9 information about safety tips, how people
10 could prepare for the storm, what they could
11 do if they lost electricity, just ways that
12 they can get ready and to make sure that they
13 were taking it seriously.

14 And that pretty much went on
15 until about the height of the storm when I
16 started to notice a lot of Tweets especially
17 coming in that were almost like 911 calls for
18 help. Most of the people -- I think most of
19 the people were Tweeting that they were
20 having severe flooding in their homes, that
21 they were trapped, they didn't know what to
22 do.

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1 I made sure to let them know that
2 if they had the opportunity to call 911 that
3 they should do that. That I didn't want
4 anybody to rely on Twitter, especially to me
5 as an alternative to 911 because I didn't
6 have any means of entering that information
7 into the 911 system. But a lot of these
8 people were Tweeting back saying that they
9 didn't have phone service and that that was
10 really their only means of reaching out to
11 anyone for help.

12 So I collected as much
13 information as I could from them, addresses,
14 names, phone numbers and then called our
15 dispatchers which are located in each of our
16 boroughs to make sure that they had that
17 information in their system and then got back
18 to these individuals who had Tweeted me
19 saying that I had contacted dispatch, that
20 they knew about the situation but to continue
21 trying to call 911 because I didn't want
22 anybody to think that that was the best means

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1 of getting through to them. I wanted to make
2 sure that they could provide dispatchers with
3 more information by calling them if they
4 could.

5 I heard back from a few different
6 people saying that they had gotten help which
7 was a big relief for me. And then I heard
8 about a couple in the days afterwards that
9 had gotten help that way which was great.

10 Throughout the storm I also was
11 seeing a lot of information coming through
12 that was false. And so I worked very closely
13 with our press office to validate and
14 invalidate certain things that people were
15 Tweeting about to make sure that there wasn't
16 any unnecessary panic going on.

17 There were people talking about
18 car dealerships where all the cars were on
19 fire or different explosions that were
20 happening throughout the city. And I didn't
21 want anybody to unnecessarily worry that
22 their life might be in jeopardy.

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1 And then as things started to
2 slow down a little bit I was getting a lot of
3 Tweets about people who had lost electricity
4 and didn't know what to do. Or if there was
5 still flooding outside should they leave
6 their house, were they in danger. And I was
7 trying to get information to them as quickly
8 as possible about what they should do in
9 their particular situation.

10 And then in the days after the
11 storm the Mayor's Office was putting out a
12 lot of information on their website about
13 ways the people could get relief, supplies,
14 where they could contact FEMA, different
15 things that would be helpful to them. I
16 assumed that the people who were Tweeting at
17 the height of the storm and said they didn't
18 have phone service still didn't so I made
19 sure to Tweet out as much as possible and put
20 it on Facebook to ensure that people were
21 being safe and that they were getting the
22 help that they needed.

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1 MR. TURETSKY: Thank you, Emily.
2 A very compelling story.

3 I'd like to turn now to Chuck
4 Bell, the program director for Consumers
5 Union which is based in Yonkers, New York.
6 Chuck, the tools consumers use to communicate
7 and to get information were impacted
8 significantly by Superstorm Sandy. Can you
9 share your thoughts on these impacts and any
10 ways to possibly enhance consumers' ability
11 to communicate in the future when facing such
12 events?

13 MR. BELL: So I work for
14 Consumers Union. That's the non-profit
15 organization that publishes Consumer Reports
16 magazine. And we think that Hurricane Sandy
17 highlights a couple of new risks when people
18 drop their traditional land line telephones
19 in favor of wireless and broadband internet.

20 I think there's a couple of key
21 points which are quite familiar to the FCC
22 but perhaps less familiar to the public one

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1 of which is that about one-third of phone
2 subscribers now are exclusively wireless.
3 The mobile phone is their go-to phone. They
4 don't necessarily have a land line system as
5 a backup.

6 And then among land line phones
7 that we have about one-third of those are now
8 broadband internet phones. And those are
9 more vulnerable to power outages in a way
10 that the old hardwired phones that had a
11 copper line network were not. So in the old
12 days you were a bit more likely to be able to
13 have service during a storm and disruptions
14 are increasingly possible for people with
15 broadband internet phones.

16 So, in this case at the peak of
17 the storm we had the storm knocking out maybe
18 about 25 percent of the mobile network
19 capacity. And also about 25 percent of cable
20 subscribers in the mid-Atlantic states losing
21 service. So this is really, you know,
22 millions of consumers with a serious service

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1 disruption.

2 In that situation I think we have
3 phones, we think of phones as consumers as
4 public safety devices. And in an emergency
5 is really when you need your phone the most
6 as was mentioned by the commissioner. You
7 have to be able to call your daycare provider
8 to say I'm going to be a couple of hours late
9 to pick up my kids. You may have to call
10 your shift supervisor at the hospital to say
11 you're going to be late for your job and so
12 forth.

13 So how did consumers get by in
14 that situation? A lot of people were able to
15 borrow phones from other networks that might
16 have been working because not all the
17 networks were uniformly affected.

18 Some people had backup land line
19 coverage but many did not. If people could
20 access wifi they might be able to make
21 internet calls through Skype. They might be
22 able to go to coffee shops or charge up their

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1 phone in the car.

2 We do have more digital platforms
3 today and some redundant capacity so
4 consumers had some options for workarounds.
5 But I think it's important to recognize also
6 many simply did not and were really stuck and
7 had to face a very difficult situation.

8 On the land line side I think
9 we're concerned that many consumers who lost
10 cable service did lose their phone and some
11 consumers in areas of New York and New Jersey
12 were without power for up to 2 weeks or
13 longer. And so in that situation if they
14 didn't have mobile phone they really didn't
15 have phone service and that significantly
16 impairs their ability to communicate.

17 So in terms of what we think need
18 to be done, we think we need minimum
19 standards for network resilience for cell
20 towers and broadband networks during
21 emergencies. We need to ensure that land
22 line service remains available also in rural

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1 and low-income areas. So we hope the
2 FCC will continue to look in requiring
3 carriers to provide additional capacity in
4 terms of backup power, temporary towers or
5 mobile trucks and also strengthening or
6 hardening networks for land line
7 infrastructure so the towers can contribute
8 with the terrestrial networks.

9 We again think this storm begs
10 the question of what the minimum standards
11 should be. Industry experts said some
12 measures that carriers have adopted have
13 indeed been effective, but are they effective
14 enough if 20 to 25 percent of the network can
15 go out? This is not the last emergency we're
16 going to have.

17 And we think going forward more
18 public reporting of key metrics regarding
19 service levels could be helpful. Consumers
20 tend to be mad at their carrier if their
21 mobile signal went out but we don't know
22 generally how our carriers are doing in terms

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1 of these things. We want to be prepared for
2 the next emergency that comes. And so more
3 transparency in holding the telecom providers
4 accountable for the results we think could be
5 quite helpful.

6 We think more could be done to
7 improve online reporting of service outages
8 by telecom providers. Service providers
9 might also do more to cooperate in
10 emergencies, for example, by sharing signals
11 across proprietary networks or opening up
12 wifi hot spots for free temporary public use.

13 The FCC should also study options
14 for improving the resilience and continuity
15 of service for VoIP services. And this
16 includes issues such as consumers having an
17 8-hour backup battery attached to their
18 broadband internet phone. We don't think
19 consumers are generally aware if they may
20 have a battery in their house that perhaps
21 they should purchase extra batteries, how
22 that system works, if it's actually indeed

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1 charged up before the storm. So there's a
2 lot of issues there that need to be looked
3 at.

4 Some telecom providers provided
5 automatic service credits. In other cases
6 consumers had to affirmatively contact their
7 cable or phone company to ask for a refund.
8 So that has been a significant issue for
9 consumers.

10 And one more issue would be for
11 people who are deaf and hard of hearing there
12 were a number of improvements in terms of
13 state and local governments doing more to put
14 information in American Sign Language and
15 closed captioning systems. But also a number
16 of important safety videos appeared on the
17 internet without closed captioning or sign
18 language and that was an issue for those
19 communities.

20 MR. TURETSKY: Thank you very
21 much. That's a lot of food for thought.

22 Now I'd like to turn to the

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1 commissioners and invite questions. I will
2 start with Commissioner Clyburn.

3 COMMISSIONER CLYBURN: Thank you.
4 Mr. Bell, you just teed up a question that I
5 had an interest in. I thought about it when
6 I was watching some of the news coverage in
7 D.C. about the aftermath of the storm or
8 really leading up to the storm in that I
9 remember vividly this individual who English
10 was not a first language for him. He had no
11 idea that the subways would be shut down at 7
12 and he was literally stuck.

13 So how do we, you know, in terms
14 of what we could do better. And you
15 enumerated a number of things. How can we
16 ensure that that type of exchange is lessened
17 and what more can we do meaning as a Federal
18 Communications Commission to assist those 54
19 million persons with disabilities? What more
20 should -- what can we do right now to ensure
21 a better outcome going forward?

22 MR. BELL: Well, I think that the

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1 key thing is really soliciting public input
2 and participation of organizations that may
3 represent vulnerable populations or consumers
4 that speak foreign languages.

5 I feel that the FCC to your
6 credit really owns this problem as you're
7 aware of the challenge posed by communication
8 service interruption in a way that many other
9 federal or state agencies may not be.

10 Obviously to deal with the
11 complex needs of consumers with disabilities
12 or low- and moderate-income populations,
13 people with impaired mobility this is
14 something that requires the cooperation of
15 lots of stakeholders and government agencies.
16 And so I think it's very challenging.

17 But I think the first thing is to
18 get it out there and start to talk about it.
19 Because I know consumers with disabilities
20 have many suggestions for things that ought
21 to be done. And if you create more tables
22 for them to participate they will come

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1 forward and they'll give you those
2 suggestions. So I think more dialogue and
3 debate about solutions is important.

4 It's also important we fund the
5 solutions because sometimes we don't have the
6 resources behind them.

7 COMMISSIONER CLYBURN: Ms.
8 Rahimi, you're no longer the secret -- you
9 know, you were the secret weapon before but
10 more and more we're knowing more and learning
11 more about your incredible efforts.

12 Along the same lines I'm
13 wondering if you heard from or what you're
14 thinking about again those persons with
15 disabilities, those individuals who are not
16 necessarily proficient in English or Spanish.
17 What could or should we be doing? What type
18 of exchange, if any, did you have with those
19 individuals?

20 MS. RAHIMI: I received a couple
21 of Tweets from people who spoke different
22 languages. We have quite a few people in the

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1 department who speak various languages who I
2 rely on in those situations to make sure that
3 I'm saying everything adequate and
4 appropriate to them.

5 We also have all of our fire
6 safety materials translated into different
7 languages. We're looking to do more with
8 videos for YouTube and things like that. So
9 I think, I hope that maybe someday we'll be
10 able to translate our whole website.

11 And I think anything that we can
12 do -- and anything any agency can do to
13 translate and to try to reach as many people
14 as possible is always great.

15 COMMISSIONER CLYBURN: And Mr.
16 Hogan and Mr. Davis, how is all of this
17 influencing the way you deliver in terms of
18 Tweeting as well as these particular
19 populations that may be more vulnerable?

20 MR. DAVIS: Thank you,
21 Commissioner. Well, we, as you know, we
22 close caption all of our broadcasts in

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1 English. We also, our choice, take the
2 second closed caption channel and closed
3 caption in Spanish because we know we serve a
4 significant Hispanic community. We also
5 close caption our digital streams. And as
6 you know, March 30, we have additional
7 responsibilities in that regard which we
8 obviously will be in compliance and make sure
9 that a lot of our digital streams are also
10 closed caption. But all of our broadcasts
11 for that entire period were closed caption in
12 English and in Spanish. And so New
13 York State Broadcasters, we also have several
14 Spanish language television stations and
15 numerous Spanish language radio stations that
16 also serve the community.

17 COMMISSIONER CLYBURN: I don't
18 know if you had anything to add. And what
19 about, if you wanted to, Mr. Hogan, what
20 about the social networking side of it? What
21 proportion -- how much is that changing or
22 influencing or making things either more

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1 challenging or more robust?

2 MR. HOGAN: It's actually
3 enhancing our ability to connect with our
4 listeners. We use social media in addition
5 to the broadcast. We Tweeted to lots of our
6 listeners. We used our online capabilities,
7 our websites to provide information and
8 directions. And so increasingly for us it is
9 -- it's another distribution platform as I
10 said for us to connect with those listeners.

11 COMMISSIONER CLYBURN: The power
12 of 140 characters, right? Thank you so much.

13 MR. TURETSKY: Commissioner
14 Rosenworcel.

15 COMMISSIONER ROSENWORCEL: First
16 of all, thank you all for being here today.
17 I want to build a little bit on the question
18 that my colleague just asked but I want to do
19 it by telling you this story.

20 When I visited the New Jersey
21 shore sometime after Hurricane Sandy hit and
22 I talked to some public safety officials in

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1 one town they told me this story, how because
2 they knew the storm was coming they made a
3 lot of efforts in the days before to take
4 non-essential equipment and move it off the
5 barrier island to higher ground. They also
6 removed a lot of police cars that they didn't
7 think would be necessary during the storm.

8 And then after the storm hit as
9 they tried to deal with the water that was
10 flowing through all of their streets they
11 weren't able to locate a particular police
12 car. Sometime later on social media someone
13 found a picture and it was from above because
14 it was so flooded the only way that they
15 could identify it was from this picture above
16 that had the number on the top of the car.

17 And I actually thought that was a
18 really neat story. But it drove home to me
19 something which is this. We tend to use
20 social media in an ad hoc way now when we
21 have emergencies. And I'm wondering if there
22 are ways to incorporate it more formally or

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1 more systematically when events like this
2 occur. Any one of you.

3 MR. SNOAD: I think you could
4 look -- there's actually a fair few efforts
5 to have a look at how you can mine social
6 media streams of different kinds for
7 information and how you can categorize and
8 sort of get a consistent story out of it.
9 And it goes under various rubrics such as
10 sentiment mapping and various other names
11 like this.

12 In some ways it's just a variant
13 of what commercial companies do when they're
14 looking at brand protection and so forth. I
15 know for certain the American Red Cross uses
16 some commercial platforms for monitoring
17 social media streams and categorizing those
18 and turning those into more structured data
19 that they can assign cases to and responses
20 to. So part of that's talking about how are
21 they performing but part of that's actually
22 what are people's needs and so forth.

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1 Now, my team doesn't do that
2 specifically at all but I think there's an
3 interesting flip side which is that one of
4 the things we did during Sandy that was kind
5 of new for us and is a thread I want to keep
6 diving into is that the updating and veracity
7 of information that's on our maps, on our
8 public information is out of date instantly.

9 The moment it's published the gas
10 station is out of fuel basically or something
11 like this. We repeatedly got official source
12 of information, struggled to get it online
13 quickly -- and a little ask here. Please
14 provide an open standard format with good
15 licenses, otherwise we can't do that at all.
16 And then by the time we published it it was
17 out of date.

18 We had consumers and our users
19 reporting to us via whatever channel they
20 could that this was out of date. And I think
21 New Jersey Gas is a good example, that the
22 Twitter stream there was one of the better

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1 sources of information from people providing
2 information.

3 So the structure's there. It's
4 not the traditional sense of structure, a
5 table, but it is structured in terms of
6 interest streams already.

7 But then when we mapped it we
8 provided a facility where people would be
9 able to say and comment on the map hey, this
10 is out of date. So it depends on how you
11 view social media but I see that as a part of
12 the social infrastructure that people make
13 use of and express comments. And I'm looking
14 to see how we can do better with that and
15 basically make that -- close the feedback
16 cycle if you like there.

17 MR. DAVIS: I think one point. I
18 mean we use social media extensively in
19 developing and all the time. And it can be a
20 great tool. But I think we have to remember
21 that certainly in terms of emergency Emily
22 made reference to all the rumors out there.

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1 Just because something is on the internet
2 doesn't mean it's true.

3 And we have developed over the
4 years professional journalists, people who
5 live and work here, people who have covered
6 these kind of stories, people who have
7 relationships with public officials and can
8 deliver the type of information in a way that
9 is truthful, is accurate. That's what people
10 need most. So, the investment that
11 broadcasters have made over the years into
12 journalism I think is important to remember.

13 And before -- I mean during the
14 height of the storm we lost electricity, we
15 lost key internet centers in downtown
16 Manhattan. We know we lost a lot of cell
17 phone power. Broadcasting never went out.
18 We never went off the air. We're never off
19 the air on a regular basis. We're on the air
20 24 hours a day 365 days a year. During the
21 storm all the television stations licensed in
22 New York City stayed on the air as did the

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1 radio stations. So I think we have to weigh.

2 There is advantage to all these
3 forms of communication but we also have to
4 remember that citizen-generated media, we
5 used a lot. We got a tremendous amount of
6 information in pictures from the public, but
7 we collate it. We look at it. We do our
8 best to verify it through journalistic means
9 before we put it back out to the public. I
10 think that's important to remember.

11 MR. HOGAN: I think that's right.
12 That's the heart of what good broadcasting
13 is, it's a curated experience. We have
14 relationships both in radio and television
15 that we've developed over years and years and
16 years. They look to us for really a life
17 line. We're the conduit of information, of
18 reliable information that they can turn to in
19 those times.

20 MR. TURETSKY: Thank you. Let's
21 turn to Commissioner Pai.

22 COMMISSIONER PAI: Thank you,

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1 David, and thanks to each of you for your
2 testimony. What strikes me as you've
3 described your perspectives is that the means
4 that you employ are as different as the
5 similarity of the ends.

6 What I mean by that is whether
7 it's radio broadcasting, television
8 broadcasting, internet-based analytics,
9 social media, land line telephone service,
10 all of you are trying to reach consumers
11 where they are to provide them the
12 information that they need. And so I think
13 it highlights for me at least the need to
14 really take a holistic view of the
15 communications landscape and not say in
16 isolation that okay, it's only land line
17 service that we need to focus on or it's only
18 broadcasting. It's an all of the above
19 approach I think when it comes to public
20 safety. So thank you for providing those
21 perspectives.

22 I guess my first questions would

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1 be for the broadcasters on the panel. One of
2 the things I noted was that Arbitron has
3 reported that between 7 p.m. and midnight on
4 October 29, the night Sandy made landfall 1
5 million people in the New York City region at
6 any 15-minute period of time were listening
7 to the radio, and that listenership was up 70
8 percent for the region compared to the
9 previous week. And for coastal areas it was
10 even higher. For Monmouth County, for
11 example, it was 367 percent higher than it
12 was the week before. So it just heightens
13 the importance of radio I think in moments
14 like this.

15 So Mr. Hogan, I was wondering in
16 particular about what you were hearing from
17 your listeners. What kind of information
18 were they telling you that they needed and
19 how did you meet that need?

20 MR. HOGAN: It was really
21 incredible because we were hearing from
22 people who were in the heart of the storm.

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1 And we were hearing from people whose homes
2 were flooding, or people who had lost
3 electrical power, people who were on the road
4 and they were giving us information about
5 trees down or streets that were impassable.
6 And it was really that realtime exchange of
7 information.

8 When we broke format one of the
9 things that we did is we began to put more
10 and more and more of the person in the street
11 on the air. We did a lot of live broadcasts
12 of people who were calling in. And it was a
13 way for us to get the information out very
14 quickly, to get it out in a very credible,
15 immediate and very personal way.

16 COMMISSIONER PAI: And I guess
17 for you and for Mr. Davis is there anything
18 from an FCC regulatory perspective that we
19 should take into account to make it easier
20 for you to reach your listeners? Obviously
21 you've got great staff and great facilities
22 but if there are any rules standing in the

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1 way we would like to know what they are.

2 MR. DAVIS: Well, you know, we
3 want to make sure that as you make decisions
4 going forward on spectrum and other issues
5 that impact our ability to reach consumers
6 that we are able to maintain that reach.

7 We serve a market of 20 million
8 people. We're not just the, as David pointed
9 out, the most watched station in the market,
10 we're the most watched station in the country
11 because of the size of the market. And to
12 maintain the ability to continue to reach
13 those people, seven and a half million
14 households, it's a small percentage that
15 receive us only over the air but because of
16 the size of the market that's about 640,000
17 people that receive us only through an over-
18 the-air basis. And that has the potential to
19 grow.

20 And those are sometimes the most
21 vulnerable of our population, the elderly,
22 the poor, people who can't afford the cable

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1 or satellite bill. For free they can still
2 get us over the air. So I think that's
3 important and we would ask the FCC in their
4 wisdom to make sure that we still have that
5 capacity to reach people.

6 Certainly it would be helpful,
7 David mentioned the fuel situation and very
8 helpful to make sure that we had
9 arrangements. A lot of that we did
10 ourselves, stations would arrange themselves.
11 We have contracts ourselves for diesel and
12 those things in emergency situations. But in
13 certain times to get access to fuel is also
14 important.

15 MR. HOGAN: And I think
16 geographic access as well. It's important
17 for us to be able to get to where we need to
18 get to. Whether it's having our people have
19 access to get to the radio stations, our fuel
20 trucks have access to the generators.

21 It was not an issue for us here
22 with Superstorm Sandy but it has been an

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1 issue for us in other disasters. With
2 Katrina it was a real problem for us to be
3 able to supply our generators. We had found
4 the fuel, we had trucked in the fuel, we
5 couldn't get past. And so having maybe a
6 little more flexibility around the access and
7 allowing us to do what we need to do to keep
8 the flow of information going.

9 COMMISSIONER PAI: Thanks and I
10 have one quick question left and that's for
11 Mr. Bell. One of the issues we heard about
12 this morning was the difference between
13 copper and fiber when it came to wire line
14 infrastructure. Verizon for example told us
15 that in Lower Manhattan they replaced by and
16 large 150 tons of copper that were previously
17 in the ground with fiber. I was wondering if
18 you have a perspective on the resiliency of
19 those two methods of land line
20 infrastructure.

21 MR. BELL: Well, I just think in
22 terms of performance at the end of the wire

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1 for the consumer the fact that a phone would
2 work on a copper line network, a hardwired
3 phone could work on a copper line network in
4 a severe storm is a capacity that is
5 gradually going away.

6 So people, I think -- I'm not
7 sure what the technical challenges are
8 involved in shoring up optical cable so that
9 it could be as robust or that there are
10 robust backup systems to ensure the consumer
11 has access to communications but I guess I
12 feel that we are paying a lot for the
13 telecommunications services we get as
14 consumers and network resilience is one of
15 the things we're paying for.

16 And so when we've migrated to a
17 digital format where you have much greater
18 capacity and much more sophisticated
19 applications of various kinds that core need
20 of the phone as a public safety device in an
21 emergency needs to be protected. And so
22 somehow we've got to satisfy that need either

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1 through technological means or regulatory
2 means. And so I don't want to be
3 prescriptive about what technology should be
4 used but I think the system we have is
5 falling short of what consumers have a right
6 to expect. Thank you.

7 COMMISSIONER PAI: Thank you,
8 David.

9 MR. TURETSKY: Let's turn to
10 Chairman Genachowski.

11 CHAIRMAN GENACHOWSKI: Thank you.
12 Thanks to all of you. And it's terrific to
13 have this panel, multiple platforms
14 discussing experiences, giving us ideas.

15 Emily Rahimi, I wanted to start
16 with you. What an interesting set of
17 experiences you had. And we heard you say
18 that you were very concerned as you were
19 getting the incoming Tweets about making sure
20 that people understood that you weren't
21 integrated into the 911 system. And I
22 understand that completely.

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1 As a result of the success that
2 you had do you sense in New York a growing
3 desire to accelerate Next Generation 911, the
4 integration of the different platforms into
5 the 911 system? And what should we be
6 thinking about lessons from your experience?

7 MS. RAHIMI: Sure. I definitely
8 think that this was just kind of the tip of
9 the iceberg, that in future emergencies
10 people will rely on social media and other
11 forms of -- other things they can do with
12 their smartphone, whether it's an app or a
13 different platform that hasn't yet been
14 invented for social media to communicate not
15 only with each other but for help.

16 And so I think that that's
17 definitely something that this experience has
18 taught me is that that need has accelerated
19 tremendously. And that if we can find a way
20 to either do the text to 911 to get help or
21 if we can find a way to integrate certain
22 forms of social media into the 911 system or

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1 develop some sort of app where people can
2 fill out information and get it sent into the
3 system anything like that would be
4 tremendously helpful.

5 CHAIRMAN GENACHOWSKI: We'll need
6 your ongoing help on that, obviously an
7 important topic.

8 I want to ask each of the
9 panelists for some concrete ideas. I think
10 one of the themes that emerged from several
11 of your comments was the importance of having
12 greater consumer awareness. People's
13 behaviors are changing, the opportunities are
14 changing and there's a lot that it would help
15 people to know.

16 I think Mr. Davis, I think you
17 mentioned the nature of a hurricane is that
18 you know it's coming. Reminding people to
19 charge their devices in advance so that if
20 power goes out they have a charged device.

21 You mentioned that part of your
22 preparation was making sure your signal was

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1 available on ESPN and part of that was
2 because if the power goes out in your home
3 you can still get radio in your car. Or the
4 backup that people in their homes should know
5 that they need more in this new world than in
6 the old world.

7 And so my question for each of
8 you is what concrete ideas do you have on
9 what you can do on your platforms or we can
10 do at the FCC to increase consumer awareness
11 of things that people can do to prepare and
12 protect themselves in the event of
13 emergencies like Sandy. And why don't we go
14 this way.

15 MR. BELL: Well, I would start by
16 saying I feel we need a strong component of
17 media localism so that you have diversity of
18 ownership of the media and you have
19 organizations that do local reporting and
20 local community affairs work. And we don't
21 always get that with the highly concentrated
22 ownership of the media that we have.

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1 A second thing would be I do see
2 social media being able to be used as a force
3 multiplier to translate complex information
4 to diverse audiences. And so for example,
5 using the example of the Spanish-speaking
6 consumers, we can tell the consumers of New
7 York and New Jersey what Governor Christie
8 and Governor Cuomo had to say in Spanish
9 through social media, or we could get that
10 information to the deaf and the hard of
11 hearing. So I think we should do that.

12 I think we do need to keep to
13 work to find a way to hold the telecom
14 providers accountable. And so as a consumer
15 I would like more detailed information about
16 how my carriers are doing in strengthening
17 their infrastructure and strengthening
18 resilience. And not just for this storm but
19 for the possible emergencies to come. So if
20 there's some way that the FCC can hold their
21 feet to the fire and increase the
22 transparency of that information we'd be very

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1 interested in that.

2 CHAIRMAN GENACHOWSKI: Concrete
3 ideas on consumer awareness. Emily?

4 MS. RAHIMI: I think that
5 anything that we can do to communicate with
6 them better, whether it's kind of integrating
7 all of our platforms. Whether it's using
8 television to talk about fire safety tips
9 that are on our website or using radio, just
10 to be able to integrate with one another I
11 think would be great.

12 MR. SNOAD: We have an enormous
13 number of consumers coming to us as I said
14 looking for information. So one of my
15 biggest challenges is making sure that we
16 have the content in a standard and reusable
17 way. Because the traditional sort of
18 channels for content delivery and production
19 through traditional media are still extremely
20 valuable, particularly in times of crisis.

21 But the innovation that we're
22 seeing happening whether it's social media or

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1 the next thing demands that we have an open
2 ecosystem of content in standard ways that we
3 can use, I can innovate around, others can
4 generate and comment on and be flexible with.

5 And so particularly the
6 availability of open and standard-based
7 content from official publishers and from
8 other sources such as the power companies and
9 so forth -- I'm just being hypothetical here
10 -- is actually really important. Because who
11 knows who's going to make the mash-up that
12 actually informs everybody. Who knows who's
13 going to provide the Tweet that everybody's
14 going to generate around as authority shifts
15 and changes with modern communications
16 technologies.

17 So that's really one of my big
18 asks along with the fact that as you go make
19 your decisions going forward that that
20 ability to innovate on this stuff is actually
21 something we predict because it's where the
22 next sort of generation of reporting and

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1 awareness and information products come from.
2 Because the transition from everyday news
3 through to new technologies is huge and
4 accelerating.

5 I mean I think the Pew Internet
6 Life study said was it up to one-third or
7 more of people under the age of 30 didn't
8 watch any TV news at all yesterday. Now in
9 an emergency thank God people are actually
10 tuning in even more to authority sources but
11 I think that's a trend that we can't decide
12 ahead of time how we deal with it. We have
13 to innovate as we go along.

14 MR. DAVIS: Well, because we are
15 a local station as Chuck mentioned we do have
16 a number of public affairs shows. We do give
17 a lot of preparedness information out to
18 people ahead of time.

19 In the weeks before the storm
20 coincidentally, not because we knew there was
21 a hurricane coming we organized a symposium
22 on Long Island which is particularly

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1 susceptible to storms with the county
2 executives of Nassau and Suffolk County on
3 emergency weather procedures with all our
4 meteorologists present and news people
5 present to discuss emergency preparation and
6 then obviously before the storm.

7 I think it is a frustration
8 sometimes when we tell people, public
9 officials tell people you should evacuate,
10 you shouldn't be there, you should leave.
11 Not everybody does. Part of the concern here
12 was we had Hurricane Irene almost exactly a
13 year ago which did not translate into as
14 large of a storm surge here. It dramatically
15 impacted people upstate. But I think that
16 was part.

17 My guess is the next hurricane
18 that's headed here you'll get a much greater
19 public response just based on people's
20 experiences.

21 MR. HOGAN: In terms of what the
22 FCC might do I think we've demonstrated the

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1 importance of radio and the ubiquity of radio
2 in these kinds of crisis. Encouraging the
3 wireless carriers to activate an FM chip so
4 that radio would be available even if other
5 forms were not, I think that would be really
6 important.

7 And then one of the things that
8 we've done is to try and learn from each
9 experience. I mentioned earlier we have
10 these local preparedness plans. And one of
11 the benefits that we have from being in a
12 number of markets is that we can share those
13 experiences.

14 And we've already had sort of
15 post crisis summits where we've shared the
16 information about what worked, what didn't
17 work, what we should do differently, what we
18 would want to do better in terms of alerting
19 people, better in terms of providing relief.

20 CHAIRMAN GENACHOWSKI: Thank you.
21 Thank you all very much.

22 MR. TURETSKY: Thank you very

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1 much to all the panelists. We really
2 appreciate your insights. Thanks for coming
3 here today. And with that we'll wrap up this
4 panel. Thank you to the interpreters as
5 well. And let me call up Sean Lev who's the
6 general counsel of the FCC who will moderate
7 the next panel. Thank you very much.

8 (Applause)

9 (Whereupon, the above-entitled
10 matter went off the record at 3:50 p.m. and
11 resumed at 4:00 p.m.)

12 MR. LEV: Can everyone hear me?
13 I'm Sean Lev. I'm the general counsel of the
14 FCC and this is our fourth panel on "Outside
15 the Box - New Ideas to Improve Communication
16 Services."

17 Before we turn to the panel I
18 need to make one announcement. Apparently
19 we're having on our video feed some problems
20 with our closed captioning. We're going to
21 make sure that is fixed and post the entire
22 video as closed captioned as soon as we have

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1 that fixed so that those with hearing
2 impairments will be able to participate or
3 see everything that's occurred today.

4 So this is our fourth panel. I
5 want to introduce our panelists very quickly
6 and then we'll get right to it.

7 Bill Smith is the president of
8 network operations for AT&T. Professor Shiv
9 Panwar is a professor of electrical
10 engineering at Polytechnic Institute of New
11 York University. Brian Fontes is the CEO of
12 the National Emergency Number Association.
13 Paul Rotella is the president and CEO of the
14 New Jersey Broadcasters Association. And
15 David Dodd is the chief information officer
16 of the Stevens Institute of Technology which
17 is our host today. Thank you very much.

18 So without further ado let me
19 just get right to the questioning. We're
20 going to follow the same basic form that
21 we've followed all day. I'm going to ask one
22 question to each panelist. They'll have 5

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1 minutes to respond to that question. Then
2 I'll turn over the questioning to the
3 commissioners who each also have 5 minutes
4 for questioning.

5 So, let me start with Bill Smith
6 from AT&T. Mr. Smith, one of the key reasons
7 we're here today is to understand the lessons
8 that we learned from Superstorm Sandy. Can
9 you describe the lessons AT&T has learned and
10 in particular if there are any game-changing
11 technologies that AT&T sees coming online
12 that may improve response in the future.

13 MR. SMITH: Certainly. Let me
14 begin by thanking the Commission for having
15 us here and discussing this very important
16 topic.

17 I've been involved in some way or
18 fashion in just about every hurricane since
19 Hugo in '89 in some form or another. And we
20 take our responsibility very seriously. In
21 fact, at AT&T we say that before people want
22 water, food or shelter they want to

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1 communicate. And that's one of the first
2 things we focus on.

3 And we learn from every one of
4 these events and add some plays to our
5 playbook. I think each one is unique or at
6 least every one I've been involved in has
7 some unique characteristic and different
8 disasters have unique characteristics.

9 For example, an earthquake or
10 tornado is a different response plan than
11 dealing with a hurricane. So we try and
12 learn and build our capabilities in every
13 case.

14 So first of all, what happened in
15 this one, I think it reinforced a lot of our
16 response plans. It went very well. From our
17 advanced planning to our pre-staging of Cells
18 on Wheels or Cells on Light Trucks also known
19 as COLTs and COWs.

20 The preparation and pre-staging
21 generators. The industry coordination that
22 we had. Facility-sharing between carriers

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1 worked well as did the mutual aid
2 responsibilities there.

3 A number of things, our fueling
4 plan worked very well. We pre-staged over
5 100,000 gallons of fuel and ultimately used
6 almost 500,000 gallons of fuel refueling our
7 generators and actually providing fuel for
8 our employees so they could get back and
9 forth to work.

10 A new thing we did this time was
11 working on setting up the charging stations.
12 We actually coordinated in New York with the
13 Mayor's Office and provided stations
14 associated with the disaster relief
15 locations. And that worked very well.

16 Opportunities. I think clearly
17 hardening the transport infrastructure is
18 something we continue to work on. About two-
19 thirds of the outages that we had in our
20 network in our mobility network were as a
21 result of losing the transport connection.
22 That is, the facility that connects the cell

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1 tower itself back into the core network.
2 Without that you can't communicate. There's
3 nothing to bring back to carry the signal
4 back into the network.

5 So in doing that we look at
6 things like microwave systems. In Manhattan
7 we turned up several microwave systems. In
8 New Jersey and Long Island the COLTs and COWs
9 are typically connected with either satellite
10 link or a microwave system. So we're
11 actually adding some of those systems to our
12 arsenal so we've got more capacity there.

13 We're looking at some free space
14 optics systems. Think about that as the
15 fiberoptic system without the fiber. So you
16 can point the transmitter and the receiver at
17 one another and transmit a signal. They're
18 not effective over the long term or in many
19 conditions but for a short-term solution
20 those may work.

21 In the power capabilities we're
22 looking at both fuel cells and additional

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1 generator systems. They're not foolproof.
2 There's a lot of discussion around diesel
3 generators versus natural gas generators
4 versus fuel cells. They all have pros, they
5 all have vulnerabilities. So I think it's
6 important to look at each one of the cases.

7 So in closing I would just say I
8 think it's important for us to remember
9 expectations. I've seen a lot of these.
10 I've been on a lot of coastlines after a
11 storm. Mother Nature can be pretty powerful.

12 And I remember those massive
13 concrete bridge sections between Slidell,
14 Louisiana and New Orleans after Hurricane
15 Katrina. They were tossed like matchsticks.
16 Imagine the kind of infrastructure you have
17 to build to withstand that force and then
18 think about whether you want one in your
19 neighborhood or not. So I think we have to
20 keep expectations reasonable about what can
21 be done there but constantly learn ways to
22 make the infrastructure more resilient.

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1 Secondly, I think we need to
2 avoid one size fits all solutions. There was
3 a lot of debate after Superstorm Sandy about
4 natural gas generators or diesel generators.
5 In many events such as earthquakes one of the
6 first things that typically happens is shut
7 down the natural gas network.

8 Even after Superstorm Sandy in
9 some of the areas where homes were knocked
10 off their foundations the natural gas network
11 was shut down. So you can't assume a natural
12 gas generator is always going to be failsafe.
13 So I think you have to be custom and look at
14 the right solution for the right problem.

15 And last but not least I think we
16 need to be careful about doing anything that
17 undermines the mutual aid in the industry.
18 One of the things that I've been very proud
19 about in my time in this industry is that we
20 always came to the aid of one another and
21 helped during a time of crisis.

22 This is a very competitive

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1 industry and I think we need to be careful
2 not to do anything that undermines the
3 willingness of carriers to come together to
4 help one another and avoid things that make
5 that become a competitive issue. Thank you
6 very much.

7 MR. LEV: Thank you. Turning to
8 Professor Panwar. So, this panel is about
9 new ideas. I'm wondering what from your
10 perspective are new ideas that may help
11 response in the future to events like the
12 ones we saw this fall.

13 PROF. PANWAR: Thank you to the
14 commissioners for this opportunity to present
15 these views and good afternoon to all of you.

16 I'd like to take up a theme that
17 Bill mentioned at the end of his
18 presentation, that of mutual aid or
19 cooperation between cellular providers.
20 We've done some work which shows that if two
21 cellular providers identical in terms of
22 their services, their spectrum availability,

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1 number of customers, if you merge their
2 capabilities you get not a doubling but a
3 fourfold increase in their capacity.

4 Put another way, if half the cell
5 towers of each of the carriers were
6 destroyed, if you merged the capabilities of
7 two carriers you would be able to maintain
8 near normal service. So this is as a result
9 of the fact that in the U.S. unlike parts of
10 Europe carriers maintain their own cell
11 towers. And that is the key to why this
12 works.

13 So in terms of crisis, in terms
14 of after an event like Sandy if you could
15 facilitate all the carriers pooling their
16 resources in terms of the air link spectrum
17 and backhaul this would be a great mechanism
18 to restore service.

19 Now, for the first time after
20 many years we have this opportunity now to do
21 this because all the carriers are all
22 converging to 4G LTE, fourth generation LTE

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1 technologies. As a result what AT&T and T-
2 Mobile did during Sandy would be possible to
3 do across all carriers in the near future as
4 they move to 4G technology.

5 This would require mainly changes
6 in software and some minor tweaks in the
7 system so this is pretty cost effective as
8 well. So this is one specific idea for the
9 future I think that I would mention.

10 The second one which is related
11 is using a technology called femtocells which
12 are these tiny cells which are just beginning
13 to become common. I think if the carriers
14 very aggressively push these femtocells to
15 their residential and small business users,
16 make it very low cost and available, then
17 these two could be in essence small cell
18 towers. Because residential users are now
19 investing in generators, alternate power
20 sources as we see around us. So in essence
21 you could form islands of connectivity using
22 this technology and the ISPs which

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1 residential and small business uses.

2 So again, if you are using a
3 diversity of infrastructure from internet
4 service providers it could be a cable TV
5 provider providing the backhaul in essence or
6 AT&T or Verizon through their competing
7 services along with residential femtocells.

8 So this is another way where if
9 these femtocells are allowed to be open
10 unlike wifi which unfortunately is more and
11 more closed because people's fears about
12 their system being hacked, if these could be
13 open either remotely or otherwise this could
14 be another mechanism to restore service.

15 I think the FCC, if they set up
16 the right regulatory structure this could be
17 done relatively easily. Thanks.

18 MR. LEV: Thank you. Turning to
19 Mr. Fontes. Your organization specializes in
20 911 emergency response. What do you see as
21 the obstacles both for the general public and
22 harder to reach populations including the

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1 deaf and hard of hearing population to
2 connect and receive emergency assistance in a
3 time of emergency? And what do you see as
4 the technology or policy solutions coming
5 online that may help?

6 MR. FONTES: Thank you. Thank
7 you very much for the question. Thank you,
8 commissioners, for holding the hearing and
9 for the Institute for setting up such a
10 remarkable setting as this to discuss the
11 important issues that this panel is designed
12 to talk about and that is thinking outside
13 the box.

14 I represent the 911 industry and
15 one of the things that we need to do to move
16 this forward is to move our 911 centers
17 across the nation into 21st century
18 technology. Much of what exists out there is
19 last century technology. Today with 104
20 percent wireless penetration, with the growth
21 of smartphone technology people wish to be
22 able to communicate in all forms of voice,

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1 video, data, et cetera. And depending on
2 your provider you can do some of those
3 concurrently. So the goal is to try to
4 provide information-rich technology and
5 sources of information for those 911 centers.

6 The key drivers if you will is
7 really to provide the consumer with emergency
8 services using the originating service
9 provider that they would prefer. And
10 particularly as it relates to the issue of
11 Superstorm Sandy and any other disaster is to
12 improve the system resilience and
13 survivability.

14 And as importantly, as you begin
15 the process of serving the public it will
16 help improve the interoperability and
17 information-sharing between public safety
18 services -- I should say between and among
19 public safety services.

20 There are definitely consumer
21 benefits. When you think of the over 400,000
22 individuals who dial 911 each day we are

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1 trying to move into a 911 environment that
2 will allow the use of text messaging to
3 enable communications.

4 Today there are over 34 million
5 Americans who are deaf, hard of hearing or
6 who have speech impediments and rely almost
7 exclusively with today's technology of
8 texting and with messaging platforms that
9 will be delivered in more advanced networks.
10 The ability to send photos, video and other
11 file information to 911 centers is critically
12 important, particularly when you get into
13 information regarding your own individual
14 health that you wish to provide to those who
15 will ultimately be responding to your
16 emergency situation.

17 In the Next Generation 911 center
18 we will be able to automatically receive
19 information pertaining to telematics and
20 other sensor data available out there to
21 improve the response and to tailor the
22 response to the unique need. We will be able

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1 to provide services that enable individuals
2 to communicate in a variety of languages.

3 For the PSAP, the Public Safety
4 Answering Point, the 911 center this will
5 allow for the opportunity to involve
6 specialists in audio and video communications
7 to get more robust and advanced location
8 data, automate some of the call-handling
9 processes, operate from mobile and nomadic
10 work stations, and this is critically
11 important in disaster recovery areas.

12 Vermont was a state who deployed
13 Next Generation-like services throughout the
14 state after Hurricane Irene hit Vermont.
15 There was significant flooding. One of their
16 call centers was damaged by the flooding yet
17 no 911 call went unanswered. The ability to
18 move those 911 calls throughout the state was
19 critically important to maintain that
20 service. You'll be able to route calls based
21 on a variety of policy issues established by
22 the PSAPs themselves.

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1 And now for those who respond to
2 the emergency situations. One thing I'd like
3 to state very clearly, right now we're in the
4 development of what is called FirstNet and
5 that is the wireless public safety broadband
6 network. Critical and it should be
7 instrumental in the initial discussion of the
8 technological aspects of that network is how
9 Next Generation 911 is going to be factored
10 into that network so that communication
11 basically moves from the individual to the
12 911 center to the first responders
13 seamlessly.

14 In Canada they're in the process
15 of developing their public safety broadband
16 network and have stated through documents
17 that 911 and the i3 standards associated with
18 Next Generation will be front and center in
19 their deployment and development of their
20 broadband network, and we should be doing the
21 same here.

22 There's a lot of work that has

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1 been done in Next Generation 911. It's
2 designed to best serve the public and to do
3 so with the ability to provide for efficient
4 and effective responses to emergency
5 situations. Thank you.

6 MR. LEV: Thank you. That was
7 very helpful. Mr. Rotella, we've heard a lot
8 today about how broadcasters responded to
9 Hurricane Sandy and the important role that
10 they played in ensuring the safety of the
11 public during natural disasters.

12 In planning for the next storm
13 what steps can broadcasters take to be better
14 prepared and to improve their performance in
15 this regard?

16 MR. ROTELLA: First I'd obviously
17 like to thank the chairman and the
18 commissioners here. I appreciate the
19 importance that you've shown to our industry
20 and certainly for the opportunity to be on
21 this panel today so thank you very much as
22 well as our hosts here at Stevens and my

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1 fellow panelists and staff and the ladies and
2 gentlemen here today.

3 We have a unique role in our
4 responsibility as first informers, first
5 responders, as the people who have the
6 microphone. I heard a mention a moment ago
7 that there's a trend that most young people
8 are getting their information from other
9 sources than broadcast.

10 But you know, we are the loyal
11 friend that's there when you need us. And
12 that's the one thing I can say New Jersey
13 broadcasters are most proud of. When the
14 power is out and when the internet is down
15 and when the cable is down and when you can't
16 get any kind of information from a television
17 because there's no electricity radio is
18 always on.

19 You know, if radio was invented
20 today it would be nothing less than
21 considered a miracle technology. Think about
22 it. For a couple of dollars you can buy this

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1 little machine. There's no download fees,
2 there's no monthly charges. You have access
3 to hundreds of different outlets for
4 information, for entertainment. And it can
5 fit in your pocket or in a woman's purse. It
6 can go anywhere and it costs maybe pennies a
7 year to run. And you always have access to
8 it.

9 In New Jersey what we did, I
10 think the most important word in your
11 question, Seth, was preparation. Our
12 stations went into prep mode as you heard our
13 colleagues talk before. I know a lot of our
14 managers and our key staff went right to the
15 stations 2 days before the storm hit. They
16 brought sleeping bags, they brought
17 provisions. A lot got stuck there.

18 But they actually in one instance
19 -- by the way our chairman is here from NJBA
20 Dan Finn from Greater Media. They actually
21 had to relocate down the block to an area
22 because their primary office got flooded out

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1 and they literally picked everything up and
2 moved down. Holding the antenna, I think Dan
3 you had it in your hand while you were moving
4 along keeping the stations on the air. And
5 you also adapted your formats so that every
6 stop set you had information going out to the
7 general public, to the listening audiences we
8 serve.

9 And that's something that's
10 really important, especially in New Jersey.
11 We have a very diverse and I think robust
12 listening population that gets the New Jersey
13 information from New Jersey local radio. You
14 saw that with Governor Christie and with the
15 different people who called in.

16 In Atlantic City I can think of
17 one example during last Hurricane Irene where
18 the mayor actually told his police officers
19 to listen to the radio for information
20 because the information they were getting
21 from that source was more timely and accurate
22 than what was being sent over the wire on

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1 their little communications networks. So we
2 take that role very seriously.

3 Preparation is going to be key.
4 I think by being part of the New Jersey
5 Broadcaster Association our members, there
6 are benefits to it. We encourage and we
7 provide free ABIP inspections.

8 Mr. Chairman, the ABIP program is
9 so important. That's the Alternate
10 Broadcaster Inspection Program. And that
11 also not just so much from the things that
12 people talk about in the industry or public
13 files and stuff, but it makes sure that
14 things are working properly. You're not
15 waiting to have a reaction, you're being
16 anticipatory, you're being proactive and you
17 make sure the equipment is in place. So we
18 provide that service for free so all our
19 members can take advantage of it. There's
20 nothing that would stop them from doing that.
21 I hope we can continue that program.

22 I also think that in the future

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1 we're going to have to look at providing a
2 first response or first informer type of
3 bill. I'm going to ask the state legislature
4 to introduce that kind of legislation that we
5 have in Nevada and that we have in Illinois
6 that just got passed to create a first
7 responder's classification for broadcasters.

8 My good friend Dave Turetsky.
9 Dave and I went to high school together. He
10 graduated the year ahead of me. As you can
11 see he's still a year ahead of me at least.
12 But Dave and I worked on the phone till 1, 2
13 in the morning during the crisis. And we
14 used our local resources with your
15 information to put people in touch with
16 things they needed like fuel and how could we
17 respond, generators, things like that.

18 One of the problems we had wasn't
19 at the national federal level, not the FCC or
20 even with FEMA. But we had -- or with our
21 state police. We had problems with local law
22 enforcement in some ways where we'd do all

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1 this work, Dave and I would get everything
2 approved and then at that last level all of a
3 sudden someone didn't get the word.

4 Also access. I think by having
5 that first informer, first responder bill in
6 place that's going to help out because a lot
7 of broadcasters said they couldn't get
8 through. The National Guard was great, the
9 state police were great. We'd get to a local
10 cop and he wouldn't know what the essential
11 personnel card meant. So hopefully we get
12 this legislation through. That's something
13 that we will continue to do.

14 Also I think we've got to make
15 sure that preparation is something that we
16 live and breathe by every day when looking at
17 our stations, our transmitter sites as well
18 as our broadcast studios. And with the help
19 of the FCC and with our strong broadcaster
20 associations, the leadership we have in New
21 Jersey we'll keep doing it. Thank you.

22 MR. LEV: Thank you. Finally,

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1 David Dodd from Stevens right here. So
2 Stevens experienced the storm firsthand and I
3 know you were a core part of the community as
4 we heard earlier. Can you help us understand
5 the effects that the storm had here, how you
6 responded to it and lessons other
7 institutions like yours, institutions of
8 higher learning or other large institutions
9 can draw from your experience.

10 MR. DODD: Certainly. And good
11 afternoon and thank you Mr. Lev and
12 commissioners. Thank you very much for the
13 opportunity to be here today but more
14 importantly for your work and diligence in
15 these hearings.

16 I'd like to take you through some
17 of the experience that we had in order to
18 answer the questions about lessons learned.
19 I'd like to provide a context for you. So
20 let me take you through if I could some of
21 the experiences that we had here at Stevens.

22 We of course knew that a storm

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1 was coming. After Hurricane Katrina and what
2 happened in the gulf most businesses and
3 public sector organizations including
4 colleges and universities became far more
5 serious about disaster recovery business,
6 continuity, crisis response. Stevens had
7 certainly done that as well.

8 And so when the storm was coming
9 we were upholding our responsibility to our
10 students not only for education but more
11 importantly for their safety. And we had
12 started to tell them to take steps to make
13 sure you're safe. If you can go home perhaps
14 you should do that.

15 But of course Stevens is a large
16 international university. We have students
17 here from multiple nations. So we will have
18 a population as most schools do who will
19 remain on campus. So therefore it is
20 critically important to recognize that for
21 schools, for hospitals and others you're
22 going to have people in different places by

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1 nature of the situation and the type of
2 disaster frankly that you have.

3 Stevens also I think as is true
4 for the vast majority of organizations in
5 this country has followed essentially a
6 traditional model with regard to business
7 continuity planning which is to have a
8 center, a data center on campus that provides
9 mission critical communications and computing
10 systems, and then to have a backup location,
11 a satellite location where that is the case
12 as well. And I think that that -- one of the
13 lessons we learned is that that's become
14 highly problematic.

15 Superstorm Sandy is called a
16 superstorm for a number of reasons including
17 the fact that it was 1,100 miles wide at
18 landfall, therefore the largest Atlantic
19 hurricane on record. It didn't just impact
20 what I've been through in North Carolina. As
21 I was telling one of the commissioners, this
22 was not just a hurricane. This was an

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1 extraordinary event.

2 And so one of the things that we
3 did is then in addition to communicating with
4 our students tried to ensure the operational
5 integrity of our data center which is in the
6 basement of our library building. We also
7 tried to ensure that our telecommunications,
8 our phone system in another building were
9 ready to go, that our internet links were
10 ready as well.

11 We felt pretty good about that
12 but I will tell you when you're looking at
13 the TV and you're seeing an unprecedented
14 storm bearing down on you you realize the
15 tenuousness of the situation. And as our
16 provost said earlier when he talked about the
17 fact that we managed to get through this
18 storm and continued our critical
19 communications it was not by virtue of a very
20 elegant design of that system.

21 Quite frankly we almost lost our
22 internet links. Our system stayed up so we

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1 were using our student information system to
2 identify, locate, ensure the security and
3 safety of all of our students. We were using
4 our human resource system to ensure the
5 safety, the location, the disposition of all
6 of our employees. We were using our
7 Resident's Life system to know where our
8 students were staying on campus or in
9 apartments around Hoboken as well. So we
10 were becoming very well aware of the fact
11 that these information systems are critical
12 to us at a time like this.

13 We were also continuing to
14 communicate through email and through our
15 website and through emergency notification
16 systems which did not fail. But I will have
17 to tell you that it was through the
18 extraordinary efforts of two individuals who
19 when one of our generators failed iteratively
20 took UPS batteries from one building to
21 another, got them recharged and carried them
22 back to continue to power our internet link.

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1 So I am saying again that you become very
2 well aware of how tenuous these situations,
3 these capabilities are in the face of a
4 disaster.

5 One of the things I guess I would
6 say that we've learned is that the -- and let
7 me just take you through. I actually thought
8 of some of these things earlier. So let me
9 take you through what I think some of the
10 lessons are that are particularly relevant.

11 Superstorm Sandy was an
12 extraordinary severe weather event but I
13 think the reality in the age of global
14 warming is that we will inevitably have more
15 of these. And I think it's critical to note
16 that Superstorm Sandy and other events that
17 are likely to occur will be regional and not
18 localized events. And so I think that's
19 something we have to pay particular attention
20 to.

21 Therefore the models of having a
22 primary location for your operations, for

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1 your communications and computing, and having
2 a backup location are probably now -- those
3 traditional models are probably out of date.
4 We have to seriously reconsider those models.

5 Even if we had been part of the
6 New Jersey Educational System Disaster
7 Recovery Alliance that program because this
8 storm is affecting New Jersey itself is
9 highly problematic because this storm was
10 very, very large.

11 The lines blur. It used to be
12 people thought of disasters and then post
13 disaster recovery. And I think one of the
14 things we've learned is that those lines are
15 now blurred. You need your critical system,
16 your critical communications systems before,
17 during and after these things occur.

18 And so one of the things that
19 we've started to do in terms of lessons for
20 us that I think is extremely important to
21 others is we have completely sort of
22 fundamentally rethought the reliance on

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1 communication and computing systems here on
2 campus.

3 And we're looking now to a more
4 strategic use of the web and hosting these
5 systems in other locations which if you're
6 dealing with key partners also have
7 redundancy built into their models as well.
8 So for Amazon cloud services, Google cloud
9 services that redundancy is now a global
10 capability as well. And so for our financial
11 system which is hosted in Arizona also has
12 redundancy through locations throughout the
13 world.

14 I'll add real quickly because my
15 time is up it was noted in a previous session
16 that 25 percent of cell phone coverage failed
17 during the disaster. I think that's
18 significant, but what I find more significant
19 is that 75 percent of those then stayed up.

20 I say that because if you have a
21 cell phone and these commercial carriers you
22 can post to content on web pages, you can

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1 access these communication systems. And even
2 if those systems are not onsite you can
3 continue this very critical communication
4 that has to continue to occur through these
5 large disasters. Thank you.

6 MR. LEV: Thank you very much.
7 So now we'll turn to our commissioners and
8 we'll start with Commissioner Clyburn.

9 COMMISSIONER CLYBURN: So I have
10 two of the takeaways that I think I have
11 today particularly with this panel which is,
12 the subtitle is "Outside the Box" which I
13 really think is appropriate is how necessary
14 it is for all of us to adjust to the new
15 norms that were so aptly coined or re-coined
16 earlier today.

17 And as Mr. Hogan said earlier,
18 what our obligations are as, and I quote,
19 "first informers." And this panel to me is
20 underpinning that as affirmed by you is so
21 significant.

22 So I wanted to start with Mr.

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1 Fontes. When we talk about the evolution as
2 it relates in the communication space, and it
3 was mentioned a few times today about Next
4 Generation 911. I particularly, again it's
5 been a recurring theme with me. It is so
6 important when we talk about those 54 million
7 Americans with disabilities. How could this
8 NG 911 if we have a ubiquitous footprint, how
9 could this have helped with those with
10 hearing and sight disabilities particularly?

11 MR. FONTES: Sure. But there are
12 a few other things that need to be done in
13 addition to just NG 911.

14 COMMISSIONER CLYBURN:
15 Absolutely.

16 MR. FONTES: Again, for David's
17 comment about the 75 percent of the wireless
18 network that remained up and running that's
19 clearly a very good point and particularly
20 essential if you're going to be able to
21 communicate to anyone, particularly those who
22 in the case of 34 million Americans who are

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1 deaf, hard of hearing or speech-impaired this
2 provides them with standard means of
3 communications through primarily texting.

4 And again, just a little footnote
5 to the opportunity for texting, the agreement
6 that was reached between public safety and
7 the four largest carriers in rolling out both
8 bounceback capabilities as to when a text
9 message is unavailable at a particular 911
10 center and then when the networks themselves
11 will provision texting to 911 later in 2014.

12 So as those steps take place on
13 the network side, on the PSAP side of the
14 equation, the 911 center side of the equation
15 particularly with the deployment of Next
16 Generation 911 the capabilities of receiving
17 text messages on any platform and the
18 opportunity to move those text messages
19 around to those who may be more specialized
20 within the 911 center community will be able
21 to respond more effectively and perhaps best
22 to those individual needs.

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1 COMMISSIONER CLYBURN: Thank you.
2 Mr. Rotella, you shared with us some of the
3 experiences you have had as a broadcaster and
4 the others. I can visualize you carrying
5 around the antenna. Sounds like something I
6 would do.

7 But I know you had some
8 difficulties transitioning from ac to dc
9 power. But you used an all hands on approach
10 that whether you're talking about generators,
11 gasoline and the like, special alerts. You
12 talk about sleeping bags. All of the things
13 it took, all of the inputs it took to -- on-
14 air talent as well as general managers just
15 coming into place. Can you give us again a
16 bit more clarity about, you know, I mean why
17 the passion towards this type of delivery?
18 Why is it so important?

19 MR. ROTELLA: Well, anyone who's
20 in radio or television or broadcast knows the
21 passion. And I've heard that in the
22 background of the commissioners. Every

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1 speech I've been at I've always heard
2 something about how I got started in this
3 business type of thing.

4 And I think it goes for
5 commercial and non-commercial by the way. My
6 next chairman Scott Taylor is here from a
7 non-com, 99.1 STAR. And also our educational
8 stations. I think that's where it
9 starts, by the way, and that's something we
10 did in New Jersey. We started a student
11 division of our NJBA. I think that's where
12 the passion starts and you live and breathe
13 it. And once it bites you, it's like
14 politics. You know, Gordon Smith says he's a
15 recovering politician. Maybe we're all
16 recovering broadcasters. But if you touch it
17 a little bit it gets in your blood.

18 But then you look at the
19 responsibility we have. There's no other
20 medium that's as closely identifiable or
21 related to their audience than radio I think.
22 Even though I represent television it's

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1 unique in radio, it's ubiquitous.

2 And you think about our fellow
3 New Jerseyans. Look, there were
4 neighborhoods, there were communities that
5 were destroyed. New Jersey, we lost, you
6 know, our shoreline. We lost our coast. We
7 lost a good part of our economy. There's
8 42,000 New Jerseyans who are now displaced
9 permanently. They're technically homeless.

10 And one of the interesting things
11 about radio is that when you're displaced,
12 when you're in an apartment or you're in
13 someone else's house or in a bedroom maybe
14 you can have a little radio there to get your
15 information as opposed to maybe not having
16 access to television or cable wherever you
17 are. But it's very easy to get that
18 information to you when you're in your car
19 going to work.

20 And then we talk about our
21 friends with the cable and internet. Think
22 about this passion. How many people called

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1 me and said I'm in Michigan but I was
2 listening to the online feed of the station
3 because my family is in New Jersey. I want
4 to find out what's going on. And they were
5 listening to an online feed of a New Jersey
6 radio station. So, and I could go on.

7 And I'm not going to take
8 everyone's time up but there's one thing that
9 we should look at outside the box. There is
10 new technology emerging like putting the FM
11 chip and lighting it up in a telephone.
12 There's something called FM alert. You're
13 probably familiar with it. Down in Louisiana
14 uses the ubiquitous FM frequencies to alert
15 maybe special needs communities, to get that
16 doorbell like the EAS does, get their
17 attention. Go listen here, find out if
18 something is going on.

19 I think the passion has to do
20 with the closeness that we share with our
21 audiences. We take it very seriously. The
22 responsibility broadcasters have for the EAS

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1 and those first informers. There's not one
2 person I know in my industry that casually
3 takes an approach to that responsibility
4 first. And I think it's just something
5 that's innate, it gets into the bloodstream.

6 COMMISSIONER CLYBURN: One of the
7 things, and I will say -- and I know I'm out
8 of time, Sean. One of the things I will say
9 that kept my sanity during Hugo when there
10 was a lot of family members that we love each
11 other but we don't always like each other.

12 When we were in that house with
13 one bathroom for an extended period of time
14 one of the things that kept my sanity was
15 WPAL radio station in Charleston. We had
16 that battery-operated radio on. It was the
17 only frequency we got. And I will affirm to
18 you that if it weren't for that station I
19 might not be here. Thank you.

20 MR. LEV: Thank you,
21 Commissioner. Commissioner Rosenworcel.

22 COMMISSIONER ROSENWORCEL: Thank

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1 you all for being here today. Mr. Fontes, I
2 want to start with you. I have seen public
3 safety answering points or 911 centers that
4 are as large as several football fields with
5 rows of operators taking phone calls. And
6 I've also seen in New Jersey no less a public
7 safety answering point with a single desk,
8 one computer station.

9 So we have more than 6,000 of
10 these 911 centers across the country. As we
11 migrate to the Next Generation 911 system you
12 described in so much detail do you think it's
13 necessary that there's some consolidation?
14 Would that facilitate it or would that be to
15 its detriment?

16 MR. FONTES: I think already
17 consolidation is taking place in the 911
18 industry. I was just on a panel this past
19 week with a gentleman from Indiana who within
20 Indiana there's a state mandate that there
21 could only be two 911 centers per county and
22 basically to ensure redundancy, et cetera.

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1 You're going to see a natural
2 evolution in large part due to the advances
3 in technology that allows for sharing of
4 information, GIS information and other
5 location types of data services. And you're
6 also going to then be able to through that
7 look at other cost savings and opportunities
8 to operate in a virtual environment.

9 And so you look at in rural areas
10 particularly the old brick and mortar 911
11 center with that one desk may in fact now be
12 consolidated or that 911 center physically
13 may no longer be necessary as that person is
14 doing the work from that rural location.

15 And so we're going to see
16 inevitably with the advances in technology
17 and the deployment of Next Generation 911 and
18 the economies and the efficiencies associated
19 with that the translation into the
20 possibility of the reduction of the number of
21 911 centers that exist.

22 COMMISSIONER ROSENWORCEL: Mr.

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1 Smith, my question is for you. You talked in
2 some detail about mutual aid and how in the
3 aftermath of the storm carriers worked
4 together in a competitive industry to try to
5 make sure that their subscribers were able to
6 make phone calls.

7 You also said that we should make
8 sure that we don't take steps to prohibit
9 that. So I'm going to ask you to elaborate
10 and say are there specific things that we
11 should or should not do in order to make sure
12 that kind of culture of mutual aid happens
13 after a disaster.

14 MR. SMITH: Sure. I worry about
15 getting explicit and publishing data carrier
16 by carrier. And there's been discussion
17 about that.

18 And in my career I have always
19 felt that my colleagues and the network
20 experts with other companies, we work
21 together. And we work together without the
22 fear that the next day there were going to be

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1 rankings published somewhere that says this
2 carrier is a little better than that carrier.
3 We actually even saw a bit of that with
4 Superstorm Sandy. You know, I actually had
5 drive tests done throughout the area so I
6 knew every day where things stood with
7 respect to carriers.

8 Let's just be careful that we
9 don't do anything that takes a very
10 competitive environment and causes people not
11 to want to do that. We opened up this time
12 as you know, we shared with T-Mobile because
13 we had compatible technologies. We loaned
14 equipment trailers to another provider who
15 lost equipment in a building in Manhattan and
16 needed capabilities. We did that freely. We
17 did that very willingly. But we did it
18 without fear that it was going to be used
19 against us the next day in a competitive
20 environment. So I just ask that we be
21 thoughtful of that.

22 COMMISSIONER ROSENWORCEL: Mr.

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1 Rotella, you talked about first responder
2 status for broadcasters and you specifically
3 mentioned legislation in Nevada and Illinois.
4 Can you tell us a little bit more about what
5 that means and what benefits would flow to
6 broadcasters and ultimately to the public
7 were you to have that status?

8 MR. ROTELLA: Awareness and
9 education, really important. First of all by
10 having that status now you have the
11 imprimatur of authority. The state would
12 actually aside from the police association,
13 the NJBA, you'd actually have some kind of a
14 credential.

15 That we would make sure, and it's
16 something I'm going to introduce in the
17 legislation, include rather, that there is a
18 component of education required before you
19 can become certified as a first responder. A
20 lot of times, this last crisis my colleagues
21 from ABC in New York and CBS, they were
22 calling me up and I had to prepare quick

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1 cards for them, literally faxing them to them
2 and emailing because they were getting thrown
3 out of their areas in Point Pleasant where
4 they were trying to broadcast. And we did
5 that with some friends in cable too to try to
6 establish that. So by getting an awareness
7 out officially from the state, from the state
8 police and the federal agencies right down to
9 county and local law enforcement.

10 And again, awareness and
11 education on that level too so that when a
12 broadcaster comes by and says listen, my
13 transmitter site is two blocks away. It's
14 going to be underwater in an hour. I have to
15 get through. Or as you heard before, we have
16 a truck full of gasoline.

17 One of the things David and I
18 talked about at 1 o'clock in the morning, a
19 little non-com station needed 10 gallons of
20 gasoline for the generator and there was no
21 physical way to do that. And Scott, one of
22 the competitors actually said I know that

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1 station. I can get 10 gallons of gas. I'll
2 get in my car and go.

3 Now, think about it. It's 1
4 o'clock in the morning. You're not supposed
5 to be really out. And he's doing, you know,
6 God's work literally to get that other
7 station up and running so their listeners can
8 tune in and hear the information they need.

9 So I think that's the key,
10 Commissioner. Education on our level,
11 education on the public's level, education on
12 law enforcement community's level, and then
13 to have that official designation attached to
14 it so that there's an awareness and a respect
15 for the work that we have to do. Thank you.

16 MR. LEV: Thank you. Thank you,
17 Commissioner. Commissioner Pai.

18 COMMISSIONER PAI: Thank you,
19 Sean, and thanks to all the witnesses. My
20 first question is for Mr. Smith. One of the
21 statements you made in your remarks was that
22 microwave system hold particular potential

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1 for enhancing resiliency. I was wondering if
2 you could expound on that and tell us from a
3 technical and policy perspective why that is
4 so.

5 MR. SMITH: First and foremost
6 having the physical connectivity is better
7 from a bandwidth point of view. The reality
8 is the average cell site today is carrying a
9 tremendous amount of data, far beyond. If
10 you think of a cell site that has LTE, 3G, 2G
11 capacity it's not unusual to have 200
12 megabits per second capacity minimum to one
13 of those sites. You generally can't provide
14 quite that capacity with microwave systems
15 but they are a good short-term solution.

16 So for example, in Manhattan the
17 morning of November 1 we were setting up a
18 microwave shot from a rooftop location at one
19 building to the Thomas Street building where
20 we could get a direct connection because we
21 knew the transport facilities feeding that
22 rooftop location were going to be out of

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1 service for quite some time.

2 So it's a short-term location
3 that was unlicensed spectrum. Manhattan is
4 not the cleanest RF environment in the world
5 so it takes awhile to get them going but it
6 is a tool in our tool kit.

7 And as I mentioned we're looking
8 at free space optic as well. They're not an
9 ideal solution for the long term but in a
10 crisis you do a lot of things that aren't
11 ideal and try and get service restored and
12 then get back to full operating mode as soon
13 as possible.

14 COMMISSIONER PAI: Thanks. And
15 if I could ask a follow-up question which
16 doesn't necessarily relate to what you
17 commented on, but one of AT&T's solutions
18 that I was interested in is the emergency
19 services internet protocol-based network, or
20 ESInet. And I was wondering, I understand
21 it's been deployed in some places like Hardin
22 County, Tennessee. I was wondering if you

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1 could describe some of the details of ESInet
2 and what that portends for a more broadly
3 deployed Next Generation 911.

4 MR. SMITH: I can give a little
5 information. I don't know, Brian, do you
6 want to go into more detail? You're very
7 familiar with that.

8 MR. FONTES: In the 911 space
9 particularly we've been working on standards
10 to ensure IT-capable communications systems
11 within the 911 center. And that ability to
12 communicate with external communications
13 systems whether it's legacy or new advanced
14 IP networks.

15 And the goal of course is to be
16 able to provide the sharing of information,
17 the pushing and pulling of data in a very
18 timely fashion, and to be able to provide
19 additional data points that were not
20 previously -- either not previously available
21 or not readily available for not only the 911
22 center itself but also for those who would be

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1 responding to a particular emergency. So it
2 really does become what I call a
3 communication hub rather than just the 911
4 center for public safety communications.

5 COMMISSIONER PAI: Thanks.
6 Professor Panwar, one of the things you
7 discussed was the use of femtocells and other
8 small cell elements to revitalize the network
9 architecture. That's something that we at
10 the Commission have talked about a lot is a
11 richer, more textured wireless network
12 architecture.

13 One of the questions I had for
14 you was how, short of mandating cooperation
15 among the carriers how should the FCC
16 communicate to some of the carriers the need
17 to cooperate in a way that doesn't, along the
18 lines of what Mr. Smith's concern was
19 earlier, suggest disclosure of confidential
20 business information and other sensitive
21 network details?

22 PROF. PANWAR: Well, as I

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1 mentioned somehow to encourage these
2 femtocells. There's a debate within that
3 industry whether these will be closed or
4 open. And to the extent that the FCC can tip
5 the scales in favor of it remaining open
6 would help in that process.

7 And I think along with that
8 realization that aside from the competition
9 issues there are these events that would
10 facilitate cooperation between different
11 femtocells from different carriers serving
12 users across all the carriers.

13 COMMISSIONER PAI: Okay, thank
14 you. And the last question is for Mr.
15 Rotella. You mentioned in your response that
16 one of the calls you got was from somebody in
17 Michigan who was listening online to a New
18 Jersey station. That led me to think about
19 the online presence of New Jersey
20 broadcasters generally. I was wondering if
21 you could describe whether New Jersey
22 broadcasters see an online presence as an

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1 increasingly integral part of the business or
2 are they still seeing it as sort of an ad hoc
3 useful adjunct in some cases?

4 MR. ROTELLA: It depends on how
5 you approach it. First and foremost we're
6 broadcasters. But I look at broadcasting and
7 I look at the internet, I look at my computer
8 as another stick to use the vernacular,
9 another antenna. When I'm at my home in
10 Pennsylvania, for example, I can listen to
11 any of my New Jersey stations on my internet
12 radios. As long as I have electricity.

13 But that's the key, that we
14 should not be afraid of distribution, whether
15 it be through a satellite, through a land
16 line. And I think our stations that get
17 that, that remember they're broadcasters
18 first and they can use all these magnificent
19 technologies to get their good content out to
20 the listeners, then I think that's real
21 valuable.

22 I think if a broadcaster makes

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1 the mistake and says you know what, I'm going
2 to be focused on just one component, just
3 like the FCC. I mean you have a very diverse
4 approach and respect for all these different
5 technologies. You appreciate them. I think
6 broadcasters have to do the same thing.

7 So if something emerges I can
8 hear my favorite radio station in Florida
9 right now. I can hear my favorite radio
10 station in Nevada right now. But of course I
11 don't have to go anywhere because I can hear
12 my favorite radio station in New Jersey all
13 the time. But I think that's the important
14 thing, that we respect it, we appreciate it
15 and know how to use it properly. I hope I
16 answered your question.

17 COMMISSIONER PAI: You did, thank
18 you. And thank you, Sean.

19 MR. LEV: Thank you. Chairman
20 Genachowski.

21 CHAIRMAN GENACHOWSKI: Thank you,
22 Sean. Brian Fontes, let me start with you.

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1 I want to ask you to talk about how we get
2 from here to there on Next Generation 911 and
3 text to 911.

4 We heard on the last panel a
5 representative from the New York Fire
6 Department who was their social media
7 representative who was communicating with
8 people on Twitter during the storm and was
9 very concerned about making sure that they
10 understood that she wasn't 911 and she was
11 trying to balance that.

12 And as we work together with you
13 and others on the recent text to 911 step
14 forward one of the challenges was we know we
15 want to move to that world as quickly as
16 possible but until we're there we want to be
17 cautious with consumers about what they think
18 is available.

19 And so I want to ask you to talk
20 a little bit about how we manage that
21 transition so we can do it as quickly as
22 possible and also what messages would you

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1 have for consumers on what they should do
2 when and if the next storm hits.

3 MR. FONTES: Thank you. First
4 off, what are the factors that will help
5 facilitate the move to Next Generation 911.
6 I think the first factor, I want to thank you
7 and your colleagues, is leadership in
8 recognizing what this means in terms of the
9 American public's ability to receive
10 responses with what I call information-rich
11 data. So that's the first thing.

12 The second thing is oddly enough
13 I just had an opportunity to speak to all the
14 state regulatory commissioners over the
15 weekend. And there are still regulations out
16 there across the country that were developed
17 40 years ago. And there's -- this
18 regulation, there's no ill intent, there's
19 nothing wrong with it, it's just that the
20 regulations need to be updated to 21st
21 century technology. And some of those
22 regulations are thwarting or impeding the

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1 deployment of Next Generation 911. So we
2 need to work closely with the state public
3 utility commissions to ensure that the
4 regulatory house is in order to help
5 facilitate it.

6 And then of course there's always
7 the issue of funding and that's an issue that
8 will always be in the list of top three if
9 you will of things that need to be done.

10 With respect to the consuming
11 public I think the things that they need to
12 be aware of is first and foremost you
13 contribute to our nation's 911 systems in
14 terms of 911 fees that are associated with
15 your land line and wireless bill and VoIP
16 bills. Be assured, you know, check to make
17 sure that money is in fact being used for 911
18 purposes. I think that your involvement or
19 demand in essence for 911 to keep current in
20 communications is critically important.

21 It's kind of sad when our 911
22 centers are locked in a voice-centric world.

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1 Again for those 43 million Americans who are
2 deaf and hearing impaired the efforts that
3 are being made to provision texting to 911 is
4 critically important. But it's essential
5 that we have the same technology in our
6 centers that you have at your fingertips and
7 that first responders will eventually have at
8 their fingertips.

9 And we have to as the first touch
10 to public safety by so many people remind our
11 civic leaders, policymakers, et cetera, how
12 valuable this service is.

13 And there are many other elements
14 in terms of educating the public as to the
15 availability of advanced services. Because
16 to your question, Commissioner, with respect
17 to the 6,000 PSAPs out there, they're not all
18 going to make the jump to Next Generation at
19 the same time.

20 Now, several states have
21 consolidated at the state level their
22 management of 911 and are charting it out for

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1 their respective states but that's not the
2 case everywhere. So there has to be that
3 constant education of the consuming public
4 where advanced 911 systems actually are
5 deployed.

6 CHAIRMAN GENACHOWSKI: Well, this
7 is such an important topic and we'll continue
8 to work with you. And I think this is an
9 area where working with the broadcasters and
10 the carriers, it's not acceptable to have a
11 world where people can't send texts to 911.
12 And yet if the storm hits tomorrow 911 isn't
13 ready for it. And so I think we'll need all
14 of us to work together to hasten the day when
15 everyone can do that while also keeping
16 consumers from being confused.

17 Last question because we're
18 running out of time. Professor Panwar and
19 Bill Smith, you both talked about 4G LTE.
20 It's here, it's exciting, it's creating new
21 opportunities that each of you alluded to.

22 And I just wanted to ask each of

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1 you to make sure that we understand what the
2 biggest opportunities from LTE are when we
3 think about disasters and communications
4 networks. And any specific suggestions on
5 things that we should or shouldn't do in
6 addition to what we've heard already to fully
7 take advantage of 4G LTE to help apply the
8 lessons we're learning as part of our work on
9 Sandy.

10 PROF. PANWAR: So, as I mentioned
11 the greatest opportunity is that at long last
12 all the U.S. carriers are converting to one
13 standard. I think that is a great
14 opportunity for us for a variety of reasons
15 including recovery from disasters.

16 The potential barriers and I
17 think I would defer to Bill on some of these
18 is the mechanisms should be set up perhaps
19 before as kind of a trial exercise across
20 carriers to make sure there are no bugs in
21 this stopping us from exploiting this and not
22 having to wait for the next disaster to try

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1 it out.

2 So I imagine things like the
3 authentication software which determines that
4 you are a customer of a particular carrier
5 can be shut off so that users from other
6 carriers can use it, that the phones that
7 they're issued can operate across the
8 spectrum, not only in the piece of the
9 spectrum associated with your particular
10 carrier. These are the kind of detail issues
11 which need to be thought out and considered
12 to really unlock this potential.

13 MR. SMITH: I don't think there's
14 anything that comes to mind immediately that
15 we would ask the FCC to do. There's a lot of
16 work to make it work as seamlessly as we talk
17 about. The different spectrum bands being
18 implemented, even different equipment
19 manufacturers. So if one carrier's got
20 Manufacturer A in a market, another carrier's
21 got Manufacturer B, making those networks
22 talk instantly, seamlessly is not as simple

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1 as it sounds.

2 But I think the industry frankly
3 is in a good position to deal with those
4 issues. I don't think there's anything that
5 we would necessarily look to the FCC to do in
6 that regard. Not that come to mind
7 immediately.

8 CHAIRMAN GENACHOWSKI: Well,
9 thank you all very much. We've run out of
10 time. We appreciate the input from each of
11 you, from our other three panels today. And
12 I just want to warn each of you that by
13 signing up to participate in the panel today
14 you've also signed up for follow-up
15 questions. And we want and need your ongoing
16 engagement. These are such important issues
17 for people everywhere and we look forward to
18 working with you.

19 I would say also before I hand it
20 back to Sean we expect to have more hearings
21 in other parts of the country so other
22 opportunities to delve deeper into some of

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1 these issues. This panel was on new ideas,
2 thinking out of the box and I think we got
3 some very good ideas from this panel. But I
4 think we're also still at the beginning of
5 thinking about how can we turn some of these
6 issues on their side and harness the
7 opportunities of new technologies to respond
8 to the issues that we saw in Sandy.

9 So thank you very much and thank
10 you to my colleagues and Sean, thank you.

11 MR. LEV: Thank you. I think we
12 are adjourned. Thank you very much to the
13 panel. I know we all learned a great deal.
14 Thank you, Mr. Chairman.

15 (Whereupon, the above-entitled
16 matter went off the record at 4:58 p.m.)

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