

NAB SHOW 2015

LPTV DAY - MORNING PANEL

Louis Libin: Good morning, ladies and gentlemen, and welcome to the NAB. I also want to welcome you to the star of day. This is the Welcome to the LPTV Day. This is the first LPTV Day at NAB. We're very thankful to the NAB for providing this forum. We know that this is going to be a relationship that continues. I thank everyone for coming to the inaugural LPTV at NAB event. Before we start, of course, we need a word from two of our sponsors of the LPTV Day, itself. I'd first like to call on Mike Gravino, from the LPTV Spectrum Rights Coalition.

Mike Gravino: Thank you, Louis. Good morning.

Louis Libin: Good morning.

Mike Gravino: The LPTV Spectrum Rights Coalition is a little less than two years old. We're based in Washington D.C. I think that most of you know us. We represent about 175 low power broadcasters, with about a thousand stations, with construction permits in most every state. We have a very similar mission with the National Translator Association, and with the Alliance. Just have a little bit different tactics we all use. Being in D.C.'s a real great advantage. I can visit with our esteemed guest, Bill Lake, on demand, pretty much. He's been pretty gracious with that. I get a good chance to meet with Peter (Tannewald), occasionally. I haven't really had a chance to share with Jerry Fritz, but he was representing Allbritton Communications. One of the companies I represent, and have ownership in, competes in the market with WJLA, which now is owned by Sinclair. And, Jim McDonald is of the National Translator Association.

Just very briefly, and then I've got to go, some cases for today I'd like you to think about. We're not going to get any answers from the FCC, until late summer, about our rule making. Ask Chief Lake about the process. I think, Peter has a lot to share about the, not only the "right of displacement", but also about our "expectation of renewal". I think, that's very important to understand that. Jerry Fritz is now with ONE Media. I think his entire how low power can use ATSC-3.0, and the technology, is very important. With Jim McDonald, the translators across the country are in rapid change. A lot of them are switching to low power digital. I think, it's very important to understand how that all is affecting us. Again, we're glad to help sponsor this. Thank you, Louis.

Louis: Thank you, so much, Mike. I'd like Dr. Fry, from Outsource Master Control, just a couple of words, or we'll get to you, later.

Mike Gravino: Lewis, one thing I forgot to mention. We have a low power industry directory, here, if anyone needs it.

Louis: Very good. Thank you. Okay. We'll get to Dr. Fry, later. Just as our own public announcement, we have a give-away, which you'll find, which is a little bit of a nostalgic slide rule calculator on low power television calculations. For the engineers, and people, you'll like it. The other side talks a little bit about our positions, and about the future standards. It's something interesting that is, definitely, a take-away. Again, I want to welcome everybody to this panel, this first panel that we have. This is on ... It really is on the industry, on the legislative process, and the reality. I think, it's possible that we may get a lot of answers. Really, it's all about the auction. The panel will be discussion the LPTV protection or lack thereof in the repacking, the auction eligibility in which extended under the FCC existing authority potentially the congressional intent, the relationship funded for LPTV funded under the existing FCC title three authority, and technical flexibility.

The purpose of this panel ... and, again, this is the inaugural panel ... is to bring together the top talent in LPTV, so that our audience will primarily ... LPTV owners and operators ...

can share, and build upon, each other's experience. I will make inductions to each of the esteemed panelists. At that point, they will introduce their positions. Just a few minutes. Just a little bit. Then, I will pose one question to each of the panelists, following the introductions. Then, we'll have questions for all. At the end of the session, we'll have a little bit of a wrap up, for each one.

The panelists ... this is in alphabetical order, nothing else. Jerry Fritz, who is ONE Media Executive Vice President for Strategic and Legal Affairs. We have Bill Lake, who is Chief of the Media Bureau of the FCC. We have Jim McDonald, President of the National Translator Association. And, Peter Tannenwald, who is, if I call him, he's the LPTV attorney. Again, this panel, to make sure everybody understands, will be discussing the status of the auction and repacking, helping LPTV survive the auction, and the post repack world. The order for the opening comments will be as follows: Jim McDonald, followed by Peter Tannenwald, followed by Jerry Fritz, followed by Bill Lake, from the FCC. Please, this is not out of disrespect. None intended. This is Bill's request.

Jim McDonald has been in the broadcasting world for over 50 years, starting in college, at a local classical music station, in Colorado. Since then, Jim's involvement has been primarily a consultant in engineering and regulatory matters. Jim continues an engineering practice, at this time. Jim is the founder, and editor, of the Broadcaster's Big Book Project, which for 25 years has provided a regulatory guidance system and information service hotline to it's radio and TV subscribers. Jim is the Chairman of the Board, at Colorado Public Television, a full-service, non-commercial, educational TV broadcaster, serving Denver, and the entire front range of Colorado, with PBS and local programming. Jim is President of the National Translator Association, which for well over 40 years, has provided support, education, and information assistance to the many TV and FM translator licensees, all over the U.S. NTA was the springboard from which LPTV came into existence, in the 1980s. It is in this capacity that Jim is here, today, to join in the discussion about the auction repacking, and their efforts on our industry. Jim, could you please say a few words?

Jim McDonald:

Thank you, Lou. Thank you, very much. As President of the NTA, I come here, first and foremost, in support of translator stations around the country. There are many of them, in almost every state of the union. Out here, in the west, we have thousands of them that will be likely affected by the repacking and the auction. The translator services, by way of a small bit of history, started with a few hardy folks, like Dr. Byron St. Clair, seated down here in front, who many of you call Doc. He has been my dear friend, and mentor, for quite a number of years. He climbed in a lot of Colorado mountains, seeking spots where TV reception from Denver could be translated, or fed down, into some little canyon somewhere, with 300 or 500 people in it. It started out as an experimental effort. Doc, between his travels up mountains and two Washington, found a path to regulatory status, in the world of translators, and now there are over 600 in California. Right here, in Nevada, there are over 300 translators. It goes that way all over the country. There are over 100 in New York state. A job well done is well worth protecting.

Translators are, virtually, always rural, and it will be from that perspective that I normally speak. As Lou has said, and as Mike Gravino mentioned, sum translators are being converted by their licensees into low power TV stations. Again, most of these that were in rural locations, remain in rural locations. Some have been moved around a little. Our position as the National Translator Association is in support of world translators. That's the perspective from which my remarks will come.

The thing that's important about translators that is somewhat different from the problem faced by low power TV stations is that translators have two channels to worry about, an input channel and an output channel. Systems often operate in large interconnected network connections, a daisy chain type of installation, over certain parts of a state or a country. We have one in Colorado, for example, our home state, in the northeast part of the state, that interconnects about 15 little villages and cities, small cities, with translator systems. If you affect a Denver channel that feeds one of those, and that change causes

input or output channels to change in the system, several communities at a time, could go dark, until they repair the damage caused by the change of channels. There are very important considerations. From this perspective, I [inaudible 00:10:41] the questions and speaking, and will continue to do so, until the last breath in me is gone.

Louis:

Jim, thank you, so much. Next, we have Peter Tannewald. Peter Tannewald joined Fletcher, Heald & Hildreth, as a member, after a 40 year career, which included one of Washington's ten largest law firms, where he was a partner, and more recently, as a named principle of Erwin, Campbell, and Tannewald, P.C. In addition to a broad range of radio and television broadcast station groups, and individual station owners, and common carrier, and wireless clients, in both regulatory and transactional matters, Peter represents inventors and developers of new technologies, and has helped implement several such technologies, including the wireless auditory assistance devices for the hearing impaired, the use of AM broadcast stations for power utility load management, visual captions on television broadcasts, the interactive video and data service, compatibility of cell phones and hearing aids, and most recently combining television and broadcast and broadband services in the same spectrum. Peter represented a publicly traded international satellite carrier, from it's inception to merger, with one of the nation's five largest inter-exchange carriers, handled the initial licensing for the nation's public television satellite distribution system, and has represented major universities for broadcast, satellite, ITFS, EBS, and telephone matters, and has helped establish a local telephone service competitor to a bell operated company. Peter is a premier LPTV attorney, and we look forward to hearing from him.

Peter Tannewald:

Thank you, Lou. I'm happy to be here. I know many of you in the room. I really don't want to spend too much time in opening remarks, because I want to leave time for dialogue, here. I think that the major issues for the future of low power TV, what I'm hearing now, are these. One is what do we do, after the auction? What will we be able to do? How do we go about doing it? Of course, we have the right of displacement, and we will exercise that right at the ... It's difficult to answer the question about what you will do, and how you will do it, until you know how many full power and Class A stations are left, after the auction, and how many channels are left in the TV spectrum, after the auction. It's very hard to answer that question, right now.

The second question is, if we get into displacements, and there is more demand than there is supply, will the FCC impose any kind of priority selection system? Of course, each particular interest group wants to have priority for their group, whether it's non-commercial broadcasting, translators in rural communities, being from network affiliates, fill-in replacement translators by full power stations. Some people feel that the industry will be best off if there are no priorities, and revel in the confusion being caused by all the interest groups that are seeking priorities.

The next question is, can, after all the years that we've put into trying to build our stations in the front off channels and tossed around, can we bring this to an end, for those of us who survive. Can, somehow, the FCC stop tossing us around, like a goofball, or whatever we're being tossed around as. That's fairly controversial. The FCC seems to feel that they have some limitations on their authority, in that regard. I don't agree with that, but that will be an issue to be discussed.

I think, the last major issue is, it's going to take a while to sort all this out, after the auction, and some of us, it's going to take time for some of us to find channels. You need to have relief from the statutory provision that makes our license expire, automatically, if we're dark for a year. If it takes us 15 months to find another channel to get on the air, you have to cut us that slack.

I guess, there is one other consideration, which is when will we have our new generation of technology, which will allow us to explore our frequencies better, but that's a question that goes beyond just the power of this room. Those are the things that I'm dealing with, and

you all are going to have to deal with, and I hope we have some more discussion of them, as we go along.

Louis: Thank you, Peter. Next, I'm going to introduce Jerry Fritz. Jerry is the Executive Vice President for Strategic and Legal Affairs for ONE Media, a joint venture between Coherent Logic and Sinclair Broadcast Group. Jerry oversees long-term strategic planning, and government relations for ONE Media, supporting the adoption and infiltration of the broadcast industries next generation transmission standard. Jerry joined ONE Media in 2014, after serving as the long time General Counsel to television station group owner Allbritton Communications Company, and it's affiliate [inaudible 00:16:04]. Previously, Jerry served as Chief of Staff to FCC Chairman Mark Fowler, and a primary architect of deregulatory efforts in the broadcasting and telecommunication industries. Prior to joining in the chairman's staff, Jerry was in private practice, specializing in communication's law with [inaudible 00:16:21], and taught on the adjunct faculty at George Mason University Law School. Jerry is an immediate past governor of the ABC Affiliate Association, chairing it's government relations committee, and leading it's news one revision team. Jerry served as the director on the NAB TV board, and served on the NAB digital television task force, as well as it's EEO, web streaming, and copyright committees. Jerry, we look forward to hearing from you on the next generation standing.

Jerry Fritz: Thanks, Lou. Technological improvements hold the promise in all industries, but, particularly, our industry, of some help for both full power and low power stations, specifically changing the way television broadcasts are transmitted from the current ATSC-1 standard to the new ATSC-3 standard, has some promise for you. I think I'm going to ... It's best to not take a lot of time, right now, to explain it. I think, it's best to answer your questions, Lou, and your questions in the audience. I'm just going to reserve the balance of my time to talk about how the ATSC-3 process will work, and what benefits it potentially has for you.

Louis: Terrific. Thank you, so much. I appreciate that. I'd like to introduce Bill Lake, who is the Chief of the FCC Media Bureau. Bill served as the head of the head of the DTV task force at the FCC. Previously, Bill was a partner at Wilmer Hale, in Washington, D.C., where he led the communications regulatory practice group, for many years. In government, Mr. Lake has previously held positions at the department of state, the EPA, and the Council on Environmental Quality. Bill began his legal career as a law clerk to the Honorable John M. Harlan, of the U.S. Supreme Court, and the Honorable Henry J. Friendly, of the U.S. and Court of Appeals for the second circuit. We're all very familiar with Bill, and we look forward to his views, and directions. Bill.

Bill Lake: Thank you, Louis. You give great introductions. It reminds me that Will Durant once said, after receiving a very fiery introduction, "I wish my parents had been here to hear that. My father would have enjoyed it, and my mother wouldn't have believed it." Those of you who heard me speak last evening, I know some of you probably did, will know that there's a yin and yang, here. The FCC very clearly recognizes the value served by low power stations and translators. On the other hand, any discussion of the impact of the auction on those services has to begin with constraints. I think, when you write poetry, you write the best you can, subject to the constraints of whatever the sonnet form is, or whatever. Here, we have the constraints that it is, of course, a secondary service, and congress made some tough decisions not include low power stations in the auction, not to protect them in the repack, and to my personal disappointment, not to provide funding for any impact of the auction, changes of channels that are necessary, by virtue of the repack.

Given that, there are lots of things we can do. I look forward to hearing your questions about the various things that we have under consideration. I will just point out that, with respect to translators, that, given the fact that translators are disproportionately in rural areas, we did provide in our incentive option order last year that a translator, or low power station, that's on a frequency that's re-purposed for wireless use, could continue to use that frequency until it receives 120 days notice that the buyer of the frequency is ready to commence operations. We know, historically, that the wireless carriers often spend years

before they build out in many rural areas on spectrum that they've bought. We do hope that there will be a cushion provided there, for many translators, basically, to have a number of years in which they can continue to use the spectrum, until the wireless carrier is ready to build out on it.

I'll just mention that we know that there are quite a few requests for various priorities, when we do have a displacement window, which we will provide for right after the auction. I find them problematic. Each of the categories of priority that we've been asked to create sounds attractive to me, but we can't prioritize all of them, and it may be the best answer is not to have any priorities at all. We do want to work with you, on all the things that we can do. I won't list the various things that we've proposed in our ... I noticed we proposed rule making, but I'm happy to take any questions about any of those.

Jerry Fritz: I'm delighted to hear from Bill, and I'm really looking forward to reading the ultimate decisions you're pulling for.

Louis: Thank you, Bill, and Jerry. Thanks so much to everyone. Before we jump to the questions, is Rob Folliard in here for a question?

Male: He's stuck in traffic...

Louis: When he comes in, he's going to join us. I appreciate that, Kevin. Thanks, very much. I'd like to jump right into some questions. These first questions are really going to point to the same order that we had in the initial introduction. Jim, this is really a question for you, and it's sort of a two-part question. If you could just explain, what's the primary difference between the translators and the LPTV stations, insofar as they're affected by the special auction as a repack. Then, this may be loaded, or not, what efforts is the NTA, itself, making to battle for the respective [inaudible 00:22:09]?

Jim McDonald: Thank you, Louis, for that question. We differ from low power TV stations in one important way, I guess, and that is we carry the programming of normally full-service stations in a remote market somewhere to a local community, but it's not necessarily a one translator to one community kind of a situation. Translators have, as I said earlier, interconnected networks in which translators feed a community, and as part of that, will feed a translator on another mountain top another 25 miles or so away, and it will feed a community, and it may feed another translator on another mountain top yet another 50 miles away. As a consequence, they end up with large interconnected networks of translators. Having input and output channels, both of which are dependent on channel availability, the loss of any of these can be devastating to several small communities at a time. That's one of the principle differences between translators and low power TV stations.

Additionally, they're located in areas sometimes that are near the fringe area of full-service TV stations. When people say, "Oh, you can just displace to a new channel", in our engineering work, we've discovered that those are particularly difficult locations, sometimes, in which to file those placement applications, or to not so much file them, but to actually engineer them, so that they still continue to work to the benefit of the communities that they have been traditionally serving, and maintain a reasonable level of coverage, and what have you. Antenna patterns, and all, being what they are, these displacements are difficult to do for two primary reasons.

Of course, one of them is technical, running into the risk of causing in excess of a half percent interference to a nearby full-service, or a not too distant Class A. The other side of this thing is translator systems, typically, are not very well funded. A lot of them are funded as a secondary budget line item, like counties. Some of them are funded as a part of clubs, your associations, and what have you. The second very difficult piece of displacement is actually cost overrun. We've translated to systems which have had to undergo some kind of change, over the history of time, and they have sometimes lost out and gone from the scene. The scary part about this is that there are certain rural communities in the west that

are served exclusively by translator systems, and the communities would effectively go dark if the translator systems that are serving that community were to shut down. Those are part of the differences.

Of course, translators have a history of being evicted off their channels, on a couple of times in history, before low power stations actually came into being, in the 1980s. I'm just remembering, in the 1960s, they were generally required, or encouraged, to be on the higher channels from 70 to 83. After a few more years, they were evicted from those channels, and moved on to 55 to 69. Then, the FCC sold some of those channels, and they were moved down to the channels between 50 and 55, in many cases, or lower, if they could get them. Now, this is the fourth time the FCC is trying to send us out of the room. There's a consequence why we feel a little bit like a whipped puppy, in that regard, because we've walked this walk, before, and sadly, it looks like we're going to do it, again.

Louis: Thank you, so much. At this point, I want to introduce our fifth panelist, our fifth esteemed panelist [inaudible 00:26:03], but when you hear at the end of my introduction, then I'll jump into a question, for Robert Folliard, who is the Vice President and Deputy General Counsel for Gray Television, Inc., which owns and operates television stations in 44 mid-sized to small markets across the U.S. In 11 of Gray's markets, Gray operates a low power television station that serves as a primary affiliate for one of the big four networks. At Gray, Robert's responsible for legal matters and regulatory compliance at Gray's television stations. Rob also oversees Gray's retransmission consent negotiations, and it's relationships with cable, telephone, and satellite providers. Prior to joining Gray, in 2014, Rob was an associate in the Washington, D.C. offices of Cooley and at Dow Lohnes, where he represented dozens of television and radio broadcasters. As an associate, Rob focused on retransmission consent, FCC regulatory compliance, and mergers and acquisitions. By the way, as of this morning, Rob is a member of the ATVA, and we look forward to hearing his views. Rob, what I'm going to do is I'm going to just throw a question, which you can ... at the beginning of our discussion. I know that Gray Television is continuing to invest in local content, and news, syndicated programs, grabbing for the top talent in community relationships. I use that word community with an underline. What is Gray doing to understand the impact, or counter the impact, of the auction process, on their mostly LPTV stations?

Robert Folliard: Thank you. First, the LPTV stations so. Dealing with the impact, we were just in an unfortunate position. We'll just have to wait and see what happens, what spectrum is left, how many channels is the FCC or the [inaudible 00:27:52] folks going to take, what's going to be left, and what can we do with it? We have LPTV stations that ... Grand Junction, Colorado, the ABC station is our low power station. In a way, when Gray ... we [inaudible 00:28:10] and we sold it to minority investors, minority owners. The only reason we were able to do that was because of LPTV, because we had a low power station there, that we could use. It's going to be important to find a home for it, after the auction is over. Right now, it's in a frustrating position where we just have to wait, see what happens, see what's left, and as soon as the FCC relinquishes it's freeze, then we will file for whatever channel's there, so we can continue to provide local programming, local news, local weather, everything that the folks in Grand Junction have been relying on in ABC programming, important programming that we want to continue providing. It's a tough position to be in, right now, but we're hopeful there'll be something. We'll take it, and move on.

Louis: Great. Thank you, Robert. Thank you for jumping right in to the conversation. I appreciate that. Peter, I have sort of a two-part question. Maybe one of the questions I was going to ask you. Could you talk a little bit about the right to participate in the auction? How's that, for a loaded one? Is there any way that stations there, or maybe I said stations, LPTV, can get that right? Then, is there any way for these stations to stay where they are, for good?

Peter Tannewald: The answer to the first question has two parts. Are we authorized by the present statute to participate in selling the auction? It's certainly the FCC's interpretation that we do not, and that they do not have the discretion to let us participate in selling the auction. It's not

accepted by everybody, that position, but that's their position, right now. Could congress order the FCC to change that? They could. There's been a lot of encouragement by advocates for that, that the industry should be pestering the daylight out of their congressmen. I don't know if congress would be entirely adverse to it, but you have to show that it's not going to cost the government any money, net, in the end, and that it won't delay the auction. Those are difficult hurdles to jump, but there are certain people trying to get moving that direction.

The second question was whether we won't be goofballs, anymore, or poodles, or whatever Jim called them, afterward, or puppy dogs, I guess you called them, afterwards. Certainly, there are people who have filed comments with the FCC about that. I'm a strong advocate for the FCC as finding some way of not to continue to bounce all our TV stations around, and just keep displacing them, to make them permanent, in some way. Now, Bill has said, in remarks in various places, that he believes that the FCC does not have the authority to create a new permanent class of service. I strongly disagree with that, as a matter of law, but if they don't think they have the authority, then persuading them to do it would be rather difficult. There are pluses and minuses for that.

I think, we do need to be made permanent. I'm not sure that all stations would be willing to pay what would be the price to be permanent, which will likely be some increase of public service obligation, and more times when you're limited on being able to file applications, to improve, or modify your facilities. That'll all have to be negotiated, or worked out. I do think that there's something wrong with the situation, where there was a one-time window in the year 2000, to qualify for permanent status, and the door is closed forever, for everybody. That's not in the public interest. It's not what the Class A statute says. It's not what the commission's general powers are, under the Communications Act, but how do you work it out? I think, it's a practical matter. It should be possible to rule in that direction. I also think, there's a practical matter that [inaudible 00:32:43] the FCC to focus on, and resolve, that issue, prior to the auction, is going to be a pretty big hill to climb, in terms of the commission's [inaudible 00:32:53] and resources.

Louis: Thank you, so much, Peter. Jerry, all full power TV stations went through the painful analog to digital conversion in June 2009, which was just six years ago. Now, we're hearing talk that we may need to do it, again, with the so-called next generation standard. Can you give us a high level synopsis of what's going on, and how it might apply to LPTV stations that do, in fact, remain, after the incentive auction repack?

Jerry Fritz: All right. Think back. This is high level. Think back 20 years ago. Various affected industries got together. That means the equipment manufacturers who manufactured the transmitters and the television sets, the programmers and the broadcasters, all got together, after much debate over competing technologies, and whose intellectual property it was going to be in the equipment. They came together in what you'll recall was referred to as 'the grand alliance'. This grand alliance set a standard for television transmission. The FCC adopted that standard, then authorized a conversion from old analog television, to digital, in 1996. Everybody remembers that. Without getting into the roots of the weeds, the standard was based on a single carrier, one carrier wave. It was called 8VSB, 8 visdigital side band. At the time, it was seen as necessary to transport a very large data file used for high definition television, but it had significant problems. It was susceptible to tremendous interference, causing a cliff effect, the signal to just drop off, and wasn't useful for deep building penetration. Those of you who have television sets in your basement, you can't get it over the air, and it's also unacceptable for mobile and portable transmissions.

Over the ensuing two decades, the high level of interference and this resulting lack of mobile and portable capability, has lead to a call to revamp the standard to use a multi-carrier approach, so-called OFDM. Think of it as giving a football to a single runner, at the end of a football field, with a ball, and instructing him to run to the opposite goal line. There are lots of opportunities for that runner to drop the ball, to be tackled, in his race, to be interfered with. Now, imagine a thousand runners, adding that same football, running to the other goal line. The odds are that some are going to make it across the field. That's the

difference between 8VSB and OFDM. A multi-carrier approach, leading to a much higher likelihood of signal reception, deep into buildings, and on mobile devices.

This new standard that's under review by the standard setting organization, the American Television Systems Committee, ATSC, had ultimately adopted [inaudible 00:36:03], and the FCC will permit broadcasters to reach many more viewers, for those who want to venture into new data casting business, to fully exploit their spectrum. You might want to put up that graphic, if you can, Mr. IT person. Excuse me, Mr. IT, could you put up that graphics? Thanks. Now, we're going to be able to receive over the air television on smart phones, on tablets, watch broadcast programs on the beach, in parks, and stadiums, without 20 seconds of buffering, or hits to expensive data caps from the cell phone companies, all in 4K high definition, and all for free.

Now, what does it mean to you all, in the low power translator business? The next generation standard permits broadcasters to code the various carriers, those thousand different footballs to each of those thousand different runners, and pair them with a specific transmitter, on the same channel. In other words, we can use the same frequency for multiple addressable uses. Think boosters. In larger markets, where broadcasters rely on different channel translators, as Jim was saying, we can now use the same extension, using single frequency networks, SFNs, on the same channel. Much more efficient use of the spectrum. Since many translators may not survive the post auction channel repack, this is a potential way to maintain service to distant parts of the DMA.

It's worth noting that the same multi-coding principles that can be used to zone a signal within a DMA for separate programming, and separate advertisements to different geographical parts of the market. Think about hyphenated DMA, like a Harrisburg, Lebanon, Lancaster, York DMA, where the broadcaster might like to have different targeted news stories, and different zoned ads, for each distinct sub-part of the market. It's a way to compete with what cable does, today. For your purposes, the ability to be using this coding technique, on multiple carriers, holds a potential promise to use single frequency networks to extend translators, where translators might go away.

Louis: Thank you, so much, Jerry. Bill, I have a couple of questions I've put together. One of them is a tough one, because it's meant more for us, than for the FCC. How do we reassure the LPTV stations about their future business? It's sort of you giving us advice. We need to get through this process, without too much damage to the broadcast industry. We know that LPTV is a small part, but it's still a part of broadcasting. According to our own studies, there'll be a direct impact on approximately half the stations. Does that mean half will be forced off the air, potentially, maybe not? We still don't know. I guess, the FCC has done their own studies. Adding on, there'll be this GAO study. What will the FCC do about that, as well? In the same vein, just take note, in the editing, in the same vein, how did unlicensed take precedence over LPTV in existing services? To us, it's almost as though we sunk down to tertiary.

Bill Lake: The first question is really the \$64,000 question. How do we deal with the uncertainty? The low power community's not alone in that. The concerns you have are different from the concerns of the full power stations, but I think, it's inherent in the fact that what we're doing is a ... An auction is a market mechanism, that the commission doesn't know, until we do the auction, how many broadcasters will participate, how much money the lawyers companies will want to pay, and ultimately how much spectrum will change hands. That will effect the full power broadcasters and the repack. It will also, secondarily, effect low power and translator communities.

We're doing as much as we can to dispel uncertainty, by making sure that we're transparent about how much will we run, and when it will happen. Ultimately, I think, the uncertainty is the strongest possible argument for getting it done, soon. The living with uncertainty is very frustrating. It makes it difficult to make business plans. One of the reasons that we are hell-bent to get this auction started in the beginning of the first quarter

of 2016 is that we know that all the effected industries want it over with, want the uncertainty to be resolved. Once we've had the auction, we'll know what the impacts are. We've proposed a number of things we want to do to try to mitigate the impact, once we know what the impact is. We'll be open, of course, to additional suggestions, but ultimately, I think, because it's a market mechanism, uncertainty is inherent in it, until the auction takes place.

As to the GO study, we've always cooperated with GO, when it's doing studies. We're working with them, and we'll work with them, again. We've typically had a very cooperative relationship with them. They rely on us for a lot of the information that they need, in order to do their studies. We'll provide them everything we can.

Louis: Thank you. The last part of it, as I said so on, was the licensed, or the potential.

Bill Lake: Yes. I think, you're referring to the fact that we have circulated a notice that will be released once the commissioners have worked on it, to fulfill the decision that the commission made in the incentive auction order, that it will try to preserve one vacant channel in each market, for use by unlicensed entities. We see this as actually no different from the fact that we have spectrum today that's reserved for unlicensed uses. We don't see this as creating, making, second, making low power communities tertiary, rather than secondary, anymore than we see it as displacing the protections of the full power community. The commission, typically, has the authority to manage spectrum, and to decide that certain spectrum will be used for one purpose, rather than another. In this instance, this commission's purpose is to ensure that one channel that has previously been used for television service will be used in each market, where we can, for unlicensed use.

Louis: Thank you, Bill. Now, I'd like to pose questions to the panel, et al. Following that, if we have time, before we have the wrap up, we'd like to open up the floor for questions. To the panel, what is, or is there, as relationship between the next gen standard and the broadcast incentive auction?

Jerry Fritz: Let me take a stab at that. The incentive auction, as you know, is going to repack broadcasters currently using 14 channels, channels 37 to 51, into the existing space occupied by 22 other channels, channels 14 to 36. That repack will require many broadcasters to swap out transmitters and antennas, for their new channels. Congress set aside \$1.75 billion to help pay for that move. Since broadcasters are going to install new equipment, anyway, it makes no sense, from a public policy perspective, to make them do it twice, once for the repack and then once for the move to next gen standard. The goal is to implement the adoption of the next gen standard simultaneously with the repack.

The way that works, the ATSC, the standards setting organization, goes through a process of consensus between the equipment manufacturers, the broadcasters, everybody in ATSC. They come up with a candidate standard, for three different layers. Forget about the top two layers. What we're really concerned about, right now, is the co-called transport layer. There is a potential candidate standard that the ATSC is working on, now. Hopefully, by the end of this month, we will have that candidate standard locked into place. There's another part of the physical layer, this first layer, this transport layer, that is undergoing review, right now.

Our hope is, by the fall, to have a complete physical layer candidate standard. Once we have that, we're going to go over to Bill and say, "Bill, issue a notice of proposed rule making. Take comments on this proposed standard, and have the commission adopt it." If the commission adopts it, in the normal course of business, it will be adopted in time for the auction to move forward, and the repack. The repack takes 36 months. Actually, it's 39 months. By the end of that time, we will have a completed, fully baked, ATSC-3 standard, with the top two layers, as well, everything ready to go. As broadcasters move over, and change out their transmitters and their antennas, they'll be doing it with the ATSC-3

standard. That's the relationship of having the government help pay for that move that using that \$1.75 billion.

Louis: Okay. Does anybody else have anything?

Robert Folliard: Yeah. The next gen standard, or ATSC-3.0, or whatever it is, it'll also leave more room for low power stations. You'll be able to ... There'll be more channels, all of a sudden. The interference, the way it'll work, all of a sudden, maybe channel 18 wouldn't have been available, under the ATSC-1.0, the current standard, but low and behold, channel 18 becomes available, and now we've got room. We can find spaces for our stations, even in more congested markets. With the next gen standard, I think, it'll help in that perspective, as well.

Bill Lake: A couple of thoughts about this. We feel it's very important to get on with the auction on the timetable release adopted, in part, for the reasons I've just given to you, to eliminate the uncertainty that the auction creates, hanging over the industry. I think, personally, that the promise of ATSC-3.0 is very exciting. I hope the industry works hard and fast to perfect that standard. I think, the timing in the first instance is up to the industry. As Jerry says, the first digital standard was to help out the industry, and brought to the commission, and blessed by the commission. That's the way it's going to have to happen this time, as well. It's not just a matter of perfecting the standard, but also proposing how we will deal with the transition process, because this would not just be a transition for the broadcasters, but also, a transition for the viewers, since the new standard will not be backward compatible to the old one. We'll be very interested to see what the industry has to propose, on that, as we consider it carefully.

As to whether that timing works with the repack, we can all be hopeful, but I would point out that in order to implement 3.0 in the repack, it's necessary not only to have the standard, but to have equipment built in the standard, and that's a tall order, in the short time that's available.

I'm encouraged by the fact that when we had an engineering firm, called [inaudible 00:48:06], do a study of the transition process, after the auction. One of the things they advised us was that, in terms of the typical expense of changing a channel on a station, only a small portion of the expense goes to equipment that's sensitive to the different, between ATSC-1 and ATSC-3.0. They used a figure like 15%. If that's the figure, 85% of that expenditure on towers, or antennas, or whatever, will be identical whether it's ATSC-1 or ATSC-3.0. It's that remaining 15% that we're talking about. It's really going to be very attuned to watch to see whether the technology and the equipment is available, in time to be able to allow the repack use the new standard, as opposed to the old standard.

Jerry Fritz: The beauty of having the consumer electronics manufacturers as part of the ATSC process is to make sure that they have bought in, and they have the capability. The Samsungs, the LGs, the Sonys of the world, the Philips of the world, to make sure that they're on board, so they can start generating these chip sets. The chip sets, as Bill mentioned, between ATSC-1 and ATSC are not that different. It's a matter of putting a new exciter in your transmitter, and swapping them out. We're extraordinarily hopeful that, with this consensus process at ATSC, we'll be in a position to make sure that we can do the transition.

We have a number of transistor scenarios. As Bill mentioned, these are not backward compatible, in much the same way that black and white wasn't backward, or that color wasn't backward compatible to black and white. We'll make sure we have a transition plan to bring to the FCC, so that the people who have existing televisions are going to be able to continue receive ATSC-1, while the rest of us migrate to ATSC-3. It's going to take a little time. The government's not going to give us a second channel, the way we did in 2009, or for the last 20 years, as we ramped up to 2009. We'll have a transition plan so that it will effectuate ATSC-3.

- Louis: Thank you. Based on anecdotal research, it looks, to me, that manufacturing capability in the U.S., and maybe other places as well, will be in no way sufficient for any sort of on time transition. Will this, somehow, be taken into account, and how could it be taken into account, what could that impact, etc.? I'm opening that up for discussion.
- Bill Lake: I'll venture that we have been trying to take it into account, or relieve the shortage of a number of the aging factors for the transition. For two years now, we've been studying this very closely. Again, to use the poetry analogy, congress gave us some limits, in this case. We have to do it with a certain amount of money, and in a certain amount of time. Changing a channel for one station is a very different matter than changing the channels for several hundred stations, potentially, in a three year period. We have identified that as a very challenging prospect. We have a whole team of people working at the commission, on trying to make that work. As I've said, many times, I think, this is one area where we, the commission, and the broadcast industry have exactly the same parallel interests, which is to make sure that that transition is carried out as painlessly, and with as little destruction as possible. I won't say it's going to be easy, but congress told us to do it, and we're going to do our very best job we can.
- Jim McDonald: Whether it's a result of uncertainty, or whether it's actually a result of certainty, the loss of a certain number of channels, and a subsequent loss of a certain amount of business, the low power and the translator industry, the manufacturers have already diminished in number by at least two, so far. The capability of the remaining manufacturers to produce the equipment we need is unknown to me, at this point. However, the more manufacturers, usually, the more the competition, the better the product, and the better the price. That said, whether it's uncertainty, or whether it's actually the certainty of a loss of channels, we are losing some resources in the area. Translators are unique, in that they can carry pretty much whatever modality the initial stations transmit, but we still are forced with buying, using, equipment to adapt to differing powers, differing channels, and any other differing qualities that we may have to deal with.
- Bill Lake: Understood. We face a similar issue, with respect to full power stations. The manufacturers who built up for the DTV transition have decreased their capacity, since that transition. We're trying to tell everybody it's time to ramp up again, but we will hopefully be used to the response.
- Robert Folliard: There are going to be a hand full of places where, frankly, the 39 lost transition, I don't think it can possibly happen. The Mount Sutros of the world, the sort of the poster child for the impossible construction situation. Lookout Mountain in Denver, for those who were there during the last transition, it took an act of congress, and it may take another act of congress. Just like Bill mentioned, he's been sort of hemmed it. The FCC did get hemmed in on what it can do. It, probably, won't be the last time that congress has to speak to this issue, because, if congressmen in San Francisco are faced with every since station in San Francisco going dark, after the 39 month period, then they're quickly going to act, and they will fix the problem. Realistically, a lot of stations will '39 months, we can do it'. There are going to be those Mount Wilsons, Mount Sutro, Lookout Mountains, the really congested places where it's going to take another act of congress to fix the timing.
- Louis: Thank you, so much. I'm jumping around, because maybe I want ramp up the audience to some good participation. The industry is really discussing a lot about a potential permanent solution for what we might all a Class A upgrade to an LPTV. Wouldn't that make it more palatable to the LPTV stations today, if they knew there was a mechanism in place? I think that's being discussed a lot. I think, you're beginning to now see it in comments, etc. With the timing of that, going along with everything else, would that be an interesting solution?
- Robert Folliard: I think, the timing is right, right now. The last time there was some talk about a Class A window was 2000. A lot's changed since then. It makes sense to give some permanent footing to those who are going to continue on. The LPTVs that find the channel. The ones who commit to some public interest responsibilities, but like our full power brethren. If

you're a viewer, the difference between a low power and a full power, nobody knows the difference. If you're watching on TV, it looks exactly the same. Our low powers in Parkersburg, in Grand Junction, and elsewhere, are exactly the same. The same public interest obligations. We're providing news. To find some certainty to be able to say, "Okay, we're not going to be the whipped dog that continues to get moved, and bumped, and whatever", is going to be important, and it makes sense to do it now. It won't interrupt the auction. It shouldn't slow it down, at all. Once we've repacked, let's find permanent homes for those who can take on some responsibilities, the same as our full power brethren. We should be treated the same, because viewers wouldn't know the difference.

Peter Tannewald: I would just encourage all of you this week, since we're almost out of time, here, don't neglect contacting your congressional representatives, because the message does need to come from them that they think the LPTV problem's important. They don't want to hear back 'you told us we don't have the authority to do it'. They don't want to hear that back. The message needs to come out that the problem needs to be fixed, and yes, you can fix it. We need your help to get congress, too, to this problem.

Bill Lake: I'll just say that Peter may be acknowledged in his own remarks. I think, as a practical matter, this is an after auction issue. Among the uncertainties is, basically, how many stations will be displaced, what the availability and the spectrum will be for low power and translator stations after the auction, how much spectrum will be needed in the future, in a world in which ATSC-3.0 has made single frequency networks possible. I think, if a proposal is brought to the commission after the auction, it makes sense, in light of the circumstances, that this [inaudible 00:57:38], and I suspect that the commission will consider it. I don't think, as a practical matter, it's something the commission will take up before the auction.

Louis: Thank you. I just want to make a comment on the schedule. I believe we have a half hour before we go. Then, we'll have ... I guess, by 11:15, we'll have some follow-up comments by everyone. I have a couple of more questions, then I'd like to go to the public. Jim, I'd like to ... if you can sort of touch on this, first, but preservation of service to rural communities, this is something that's in the hearts of all of us. In terms of thinking ahead, what percentage of translators do you believe will be saved by the next gen standard?

Jim McDonald: Given the fact that we can translate the carrier, basically, with the standards that we're given, in the first place, and that we don't have to non-convert [inaudible 00:58:29], it's much easier, but if we're forced to ... I can't give you an exact percentage. I don't know. I think that the next gen standard will ease a lot of situations, as far as adjacent channel uses, and so forth. I think that there are some considerations there, but I really don't have an answer to the percentage of translators that will be saved. I think that the translators are in a unique position, because they have not been charged with a public service responsibility, and they don't initiate programming, originate programming. They don't normally have to do some of the regulatory steps that most LPTV will, and the Class A and the full-service stations have to do, at the very least. Some of them work even in the low power stations, too. We try to just maintain veracity to get. We try to send out what we get.

Louis: Following up with that, for everyone else, we're talking about sort of an approval for ATSC-3.0 and the process for that, and allowing us to use OFDM studies to potentially to find channels, where we can move, migrate to survive. The time table for, I guess, the acceptance, or the authorization of the ATSC-3.0, or other new technology, where does that fit within the process?

Jerry Fritz: It's going to be accelerated dramatically, because as Bill mentioned, the last time we did the transition from analog to digital, this was a consensus driven industry proposal that the commission blessed. We anticipate exactly the same process, this time. We will have an industry standard that is consensus driven, that will be given to the commission. They have, by law, a requirement to go through a notice to propose a rule making process that they will consider and then adopt it. As Bill says, they're going to be interested to see what

the transition process is going to be. That's a separate issue. Improving the ATSC standard as the standard to be broadcast, it's not a prerequisite that we have a transition plan. We will show the commission how that transition plan will work, because the commission, as a consumer oriented agency, in some respects, wants to make sure that the people who have televisions can continue to watch their televisions. We, as an industry, have that self interest, to make sure that the transition is done correctly.

As a matter of just straight administrative law, it's a fairly simple notice of proposed rule making that we think that the commission could undertake, relatively soon, which is why we are in such a ... Bill is exactly right. We have the ball in our court, and we are moving extremely quickly to make sure that that physical layer is done, so that we can go over it, again, and say, "Please start this process, so that we can have it done in conjunction with the repack." Again, it makes absolutely no public policy sense to make broadcasters go through the repack, change out their antennas and transmitters, and then do it again for ATSC-3.0. It makes no sense to do that. Let's do it all at once, and we're working as fast as we can to make sure that that happens, so Bill can move forward with that ruling.

Louis: Thank you. As a public service announcement, just so you know this is a first in the LPTV Day activities, we do have, following this, there are sessions on LPTV equipment, etc., beginning at 2pm. I'm saying this because I need everybody to remember that LPTV is a very vibrant industry, and continues to grow. The proof of that is tonight, when we have the LPTV mixer. For the first time, we have many awards for content production that's all LPTV data related. You would be amazed at what you see. You couldn't believe that these are not full power major stations. I find that absolutely staggering, and it's really a credit to the industry. I'd like to open the floor to the audience, if we may. I guess we have a microphone.

Male: Also, the afternoon starts at 1:30, back in this room.

Louis: 1:30. Thank you.

Glenn Plumber: Shall I use the mic?

Louis: Please. Yes.

Glenn Plumber: My name is Glenn Plumber. I'm licensee to the LPC Class A, in Detroit. I was aware of a broadcast standard that Sinclair Broadcasting was proposing. Is that different than the ATSC-3.0? If so, how? For example, I was told that, after the auction, our station could, say, have 30 to 50 sub-channels. Then, I was told that this current proposal, there's 15. It sounds to me like, maybe, that's two different broadcast standards.

Jerry Fritz: Here's the relationship. ONE Media, the company that I work for, is a joint venture between Coherent Logics out of Austin, Texas, and Sinclair Broadcasting. Sinclair Broadcasting is the primary funder, as our parent company. We are working closely with the folks at Sinclair. The difference, what you're hearing, the ONE Media standard is the standard that's developed by broadcasters for broadcasters. The ATSC-3.0 process is considering a number of proposals, including ONE Media. There's another European standard, for example, called DDB, which is primarily a fixed standard. It has [inaudible 01:04:48] globbed on the side of it, but it doesn't add the functionality and the flexibility for data casting that the ONE Media standard has.

What you're hearing about the capacity is that when we move to a new ATSC-3, or including a ONE Media standard, you're going to have a doubling of the capability of the megabits. Instead of having 19.6, you might have 38 megabits. What you can do with 38 megabits, depending on whether it's HD, whether it's SP, how you pack that will determine how many programming sources, or programming streams, you can carry. That's the difference.

Glenn Plumber: Basically, today, it's practically three, four.

Jerry Fritz: Right, today, if you are a broadcaster under ATSC-1, you have 19.6 megabits. Most broadcasters, certainly those that are network affiliated stations, use about 11 of those megabits for high definition, either 720p, or 1080i. You're going to need much of that to do a high definition service. You can then have a D1 and D2 channel. Basically, three channels per station. That will improve dramatically in a next gen world.

Glenn Plumber: But, not up to 3060.

Jerry Fritz: That sounds a little high.

Peter Tannerwal: You got to go look at the different technologies. The capacity of the channel to divide the bits among the screens is one thing. The capacity of the channel is higher if you statistically divide the bits so that each channel is using only the number of bits it needs for the amount of motion incurred at that time. The so-called [inaudible 01:06:38] what people are using have up to 12 channels in today's technology. Whether you like the quality of all 12, that's for each person to decide. The capacity of the channel will be determined, in part, by whether you have a fixed bit allocation, [inaudible 01:06:57], or a dynamic changing allocation.

Jerry Fritz: Some of that's controlled by contract. If you're a network affiliate, for example, the network requires a certain amount of bits to be used. If you're running programming with high action, like a football game, or a basketball game, on the Boston Garden floor, which has all sorts of fine detail to it, or if you're broadcasting picture with fire, high action films with fire, you're going to need more bits than two [inaudible 01:07:32].

Glenn Plumber: What would be the compression standards allowed [inaudible 01:07:37] standards?

Jerry Fritz: It's a great question. As I mentioned, the ATSC standard has three layers. The first one, the transport layer, the physical layer, think of as railroad tracks. The second layer, think of as box cars for the train, and the third is the content. Those audio standards, and some video compression standards, are in the top two layers, and they're under the ATSC is analyzing a number of different [crosstalk 01:08:04].

Glenn Plumber: Once we get out of MPEG-2 and move to something two or three times more effective, that's when you give the content of quality, and still allow a lot more channels. Sticking with MPEG-2 is useless.

Jerry Fritz: I hear you.

Male: I think it's too late, but input of anything would be appreciated. When the initial NPRM on the auction came out, I got the impression that the FCC was, primarily, looking to purchase licenses in the top 30 television markets, and perhaps, in close [inaudible 01:08:48] markets that impacted the availability of channels in the top 30 markets. When the Green Hill reports came out, they gave opening bid price estimates for almost all television markets. Is the FCC changing it's focus to expand the number of it's size of markets that it expects to purchase licenses for?

Bill Lake: No, but we are learning more. One of the things that we've done is to run our own simulations of how the auction might happen. We've also had a number of parties in the preceding filed simulations. AT&T filed one, for example, about a year ago. Their simulation had us taking about 250 stations, in as many as 70 or 80 markets. We do anticipate that we will have much greater demands for a spectrum in the top 25, 30 or whatever markets, but because of the daisy chain effects, we expect to buy spectrum in many smaller markets, as well.

When we did the Green Hill reports, both of them, what we tried to do was give a number for every station. What we tried to do is, basically, to identify what the potential was, for every station, if we needed that station. That doesn't mean, obviously, that we will need every station, and what we are going to do. We don't know to what extent this will be possible. At the time we actually run the auction, if we can tell, in advance of the auction, that there's certain stations we just won't need under any circumstances, we will try to make that public, so then people don't have to go through the process of even deciding whether to participate. I don't know if that will be possible. We're still exploring, but we obviously don't want to put people to trouble if there's simply no chance we will take their station.

Jerry Fritz:

Just because a station isn't sold in a particular market doesn't mean that the market's not going to be effected, because, remember, what the commission's doing is clearing a whole chunk of spectrum. Everything from channels 37 to 51, if you're up there, even if there's no sale of a station in your market, you're going to have to move, because the wireless companies want that virgin spectrum. They want it clean. They want us out there. That means, you can those 14 channels, and repack them down into where 22 is. This daisy chain that Bill talks about has a direct impact on virtually all markets. Just because there's no sale of a station in your market doesn't mean you're not going to have to move.

Bill Lake:

I might actually embroider that. I don't think this will make it sound better, but when you say "down to 36", how much spectrum we clear will depend on the auction. It's possible it would clear less than you just described. It's also possible, it would clear more, in which case, we would clear, actually, some of the channels below 37. I think, as Jerry says, if you have channel 48, today, you're going to have a free movie. Any successful auction would clear channel 48. Even if you're on channel 21, there's a possibility that you might be moved. Then again, with the daisy chain effects, it might just be that changing your channel from 21 to 24, or whatever, will have to fit in what will be a nationwide channel allocation.

One thing we will do, and this goes to the Mount Sutro issue, is that when we do the channel assignment for the full power stations, after the auction, we have a very powerful software that will allow us to produce an optimal channel assignment. We can optimize for various things. We have said that we propose to optimize for minimizing the number of stations we have to change, minimizing the very expensive stations. If we can avoid moving somebody who's on Mount Sutro, obviously, that's in everyone's interest. We will have information. We already have some information, but we're at a lot of places where moving will be particularly difficult and expensive. We would ask for input about other things that we can optimize for, so that we can try to avoid any situation in which we're wasting money, or we're requiring people to move, in situations where we don't have to.

Louis:

Bill, before Dr. Weiss poses a question ... He, actually, may pose a question, because we keep hearing about cost, and cost of moving, and things like that. He might even ask about the cost for LPTVs and TV translators to move, because that is really, really a tough and unfair issue.

Dr. Weiss:

Chief Blake, thank you for addressing our industry, and the LPTV side of that industry. It's appreciated to have you here, to hear your thoughts, and hoping that the FCC truly does want to be fair, to the LPTV and translator world. I believe that, personally. There is so much uncertainty, which we have not created, but we are being asked to embrace. Again, I want to prepare for the future, and be allowed to serve the public and fulfill our covenant with the commission and the viewers. Recognizing that, whenever this auction takes place, whether it's sooner, or later, there's going to be a period of time where some of us, in some markets, are going to be unable to serve the public. My question is, if it is known that we will be prohibited from functioning in certain major markets, under the current standard, when the auction takes place, but if it is anticipated that, after the auction, and after the new standards are in place, the single frequency networks are rolled out, will we be able to hold our place, and be treated fairly, that since we created none of this uncertainty, but

were asked to live through it, allow us our right of displacement, when the dust fall settles, even if we have to temporarily fail, because of what others have created for us?

Bill Lake: That's a very interesting question, and I don't, frankly, quite know the answer. I do think that, as described, the ATSC-3.0 does promise to ease some of the spectrum shortage, if there is a shortage. I think, we'll have to see. Again, it depends in part on the timing of the new standard, vis-a-vis, the repacking auction. We certainly want to do whatever we can to make sure that the viewers don't lose the programming that they value.

Louis: Thank you. I think, this will be our last question from the audience.

Male: I think, this is a Jerry question. Regarding the ATSC-3.0, obviously, it's going to be packed with all kinds of advantages that the ATSC-1 doesn't have. One of the biggest growth areas is mobile. Because there was a failure of the ATSC-1 mobile, ... It never really got off the ground, because of licensing issues. Most networks didn't want their signal to be broadcast mobility. My question is, if this robust system is adopted, is there going to be cooperation from the wireless carriers, because they're the ones that control the mobile phones? It's not the manufacturers of the phones, but the AT&Ts and the Sprints, and all the other carriers. Is there going to be any kind of cooperation, to allow that signal to be used with their phones? Secondly, many of the mobile phones around the world have an FM radio chip built in. That's been a difficult battle, here, in the United States. I'm thinking, if we're having a problem with an FM radio chip, in a wireless phone, how much trouble are we going to have with the carriers embracing ATSC-3.0? Thank you.

Jerry Fritz: That's a great question, and something that I spend a lot of time thinking about. A couple of things. The reason that mobile service failed under ATSC-3.1, perhaps, isn't as much as you eluded to a licensing issue and content. It's because the standard sucks. It just doesn't work for mobile. There's that one carrier. If somebody walks into the room, it could change. There's multi-path distortion. There's buildings. There's mountains. There's rain. Lots of things can knock it off the air. It just doesn't work. I sat on the NAP board, when we adopted APSB, as opposed to OFDM. It was a political decision, at the time, because it was seemed that this was a television service, and we needed a high band width capacity to take that HD signal. Senator McCain, who was overseeing the communications subcommittee, in the senate, threatened the broadcasters to take away the second channel, if we didn't move quickly. He thought that the broadcasters were never going to give back the second channel, so he threatened the industry, and said "Don't slow down, adopt it." The only thing that was available, that had been fully tested, at the time, was APSB, and so the industry went that way. It was a mistake. It was a mistake for mobile version. It was a mistake for deep building penetration. It just didn't work. Now, we have the opportunity to correct that.

As you say that it's not in the self interest of the cell phone companies to allow somebody to get free, over the air, mobile television, on their cell phone. We think it's going to start, not in cell phones but, actually, in high [inaudible 01:19:07] tablets, in iPads, where the cell phone companies don't have that vested interest. We think that the Samsungs and the LGs of the world are going to say, "Okay, we're going to build this into our laptops, so that you can take it to the stadium, and watch the instant replays of the football game, in real time, without buffering, in 4K and HD, and not crash the system, and not have to pay your data charges to the cell phone company. That's what we think is going to happen. Once we wet the public's appetite, this is what they've got [inaudible 01:19:38], this is what they expect. We think it's in Samsung and LG's best interest to include this, and so that we're going to come at it from the back door, as opposed to the front door. I think, that's how it's going to happen.

Louis: Jerry, thank you, so much. As we come to conclusion, just a quick comment. The LPTV industry is a very, very diverse group. Potentially, some 30% minority owned LPTV stations, they're not always represented, or well represented, in the public/FCC forums. Maybe, they're too busy running their stations, which is a real issue. I have to tell you, now,

on the flip side, I'm very encouraged that we have this LPTV and NAP Day. The LPTV TV translators coming together, the whole industry, is a very big deal for us. My comment is this is a terrific thing. I want to thank everybody for participating. I'd like, now, for each of the panelists, and this time beginning in the order closest to me, Bill, just do a quick recap of your view of today's discussion, and it'll be well appreciated.

Bill Lake: I guess, it's clear to me that you're in a very uncomfortable situation, and I understand why. We want to do everything we can to mitigate that, again, within the constraints that we're faced with. I would say, again, I think that the road will be much clearer when we've gotten this auction behind us. We know how much spectrum has changed hands, what the impact is on the secondary services. At that point, we may be able to do more to address your situation, once we know what the situation is, on the ground, and, to Jerry's point, once we know how quickly a new standard may be come and gone.

Louis: Thank you, Bill. Peter?

Peter Tannerwal: What I've heard the last couple of days is that [inaudible 01:21:38] is there's sympathy and hope, sympathy for our problem and hope for solutions. I'm not too comfortable that all the stations will be able to survive, as long as the FCC seems to think it's going to take congresses solutions. Therefore, I encourage you to be vocal, both with the agency and the congress, to say that "We don't know if we can hold on two or three years. How do we attract capital? How do we develop programming, when we don't know when the switch is going to get thrown?" You really need to get in there and say "We have to have some solutions, earlier." The government has limited resources. People are working very, very hard on this auction. Congress has made it clear, that's the top priority. The chairman has made it clear, that's his top priority. That's the way the resources are going to be allocated, unless we can squeeze a little bit, and get some of them now.

Jerry Fritz: This is my 47th year in the business. I can remember being in Chicago, walking out of the WMAQ studio, in August 1968, thinking, "Wow, this is a great industry." We were using 2" video tape. There was no color. I said, "God, this is a great industry." I've seen all of the progression. I've seen how the industry adapts to regulation. I was fortunate to be part of an administration that deregulated a substantial amount of affected broadcasters. I've seen technology have a tremendous impact. When I left practicing law, and decided to join this company to change the way broadcasting works, to let the marketplace decide, based on technology, how to improve our life. This was a significant decision that I made, personally. I have to say it's been invigorating. I think that the potential for technology to improve our lives, and our business lives here at the broadcasting industry, is tremendous. It has a limited, albeit significant, effect on your business, because I think SFNs do hold the promise to help save it. It's not going to be panacea. It's not going to be a cure all, but it has the potential to help us, in some respect, and I'm excited for that to happen.

Jim McDonald: If this is my 53rd year in the business, why is it that I look so much older than you do? Anyhow, the good news from all of this is the fact that, as a secondary service, LPTVs and translators are still well ahead of pirate radio stations. Our issue, really, is channel availability and costs. In the translator business, that's really the life or death of our industry, channel availability and costs. It's been said, and it was said last night, and it's been said several times over by the commission, in one way or another, for LPTVs and translators, it might be just tough luck.

We, as licensees and industry people, we sort of understand the risk of getting a license to operate. We understand the risk of starting a business. We understand the risk that goes with being charged with the responsibility of doing our best, in an environment in which things happen. We do know the risks. The viewers haven't been asked to buy into that risk. That's what the FCC really must say, not so much to licensees, but to the 80-year-old grandfather, in Monroe, Utah, whose eyesight doesn't allow him to operate a smart phone. It has to say that to George Yellowknife, in Pablo, Montana, whose Native American programming will all be gone. The Gonzales family, migrant farm workers, of Yuma,

Colorado. If they can't afford a smart device, or satellite service, the TV goes off, and the tornado warning is not heard.

FCC, and congress, are joint responsible for what we're facing, today. I think, we can still make some changes from the perspective of the viewers, through our congress people, at the margins, as this goes along, without holding up a whole lot. The nationaltranslator.org website will have, between now and our convention next month ... to which anyone's invited, just give us a call ... our convention next month, a toolkit for contacting your congresspeople. If you are in a rural area, your congresspeople are going to be responsive to your requests, if you are a constituent. I would suggest that we approach our audiences, and let them know what this situation is as much as possible, and ask them to contact the congressperson in their district, to discuss the risks that we may face of losing channels, or being unable to buy sufficient amounts of equipment to replace our services. For that, I'd say, the last thing that the National Translators Association has to say, after all these years, arf.

Robert Folliard:

I think, going forward, there's going to be a lot of uncertainty for the next year. Let's get the auction over with. Let's find out where we can land. In, hopefully, early 2016, we have the auction, we know what's out there, we know what's left, we know what we can do. Let's get some certainty going forward. Our stations deserve, and need, the certainty. When we do, and if we do, find a new channel for our stations, we need to know we can stay there. We will have rights, once we find a landing spot. Getting certainty ... Folks have mentioned, speak loudly, speak often. Talk to your congressman. Let him know that this is an issue, that folks rely on our stations. People who are watching us don't know the difference between the secondary and a primary service. They just want to watch their TV shows. We need to let people know that we are out there, and we need the certainty, going forward.

To Jim's point on the channel availability, that's also going to be an important issue that we need to get out there. Right now, the way the FCC is proposing to run its auction, there might be multiple different band plans in different markets. Maybe, in Detroit, the FCC can only clear it down to channel 40, because of Canadian issues. Meanwhile, in Sioux Falls, where, let's be honest, there isn't a whole of demand for spectrum, the FCC will say, "Yeah, but we can clear it all the way down to channel 26, so let's take it." To have that variability ... Well, the difference between what gets taken in Sioux Falls is a lot of our stations.

In these markets that we didn't ask for the spectrum option, and it's being forced in upon us, and then in markets where there isn't the same demand, meanwhile, because of the variable band plans, which is such a complicated issue that I think, people haven't focused on it, because it is so complicated, and it's hard to understand. We need to let people know that this is an important issue that will effect folks, not in the NFL markets. In markets like Sioux Falls, in markets like Grand Junction, in these other markets that aren't those top 30 markets that everyone keeps talking about, we're going to be effected. We need to let people know. Get out there. Make your voices be heard, because viewers are relying on us. Viewers want to see us, and we need the certainty going forward, and channel availability.

Bill Lake:

On the market variability, I'd like to just clarify a misunderstanding that I think is quite general. What we've proposed is to clear a near nationwide clearing target. The outset of the auction will establish a clearing target. I'd say it's 120 megahertz, or whatever. We recognize, there will be some market variability, but only in a downward direction. If we have a clearing target of 120 megahertz, we will recognize that there may be some towns, cities, at the border, or elsewhere, where we can clear less, but under no circumstances, will we clear more than the target. The fact that we might, in Wyoming, be able to get more than 120 megahertz, we won't. We're not planning to go above those clearing target, anywhere. Market variability will only mean that we'll settle for less than the clearing target, in certain towns, if we have to, so as not to reduce the option to the lowest common denominator.

Louis:

Bill, Peter, Jerry, Jim, and Rob, thank you all, so much, for participating, and thank the audience, so much, for participating. LPTV Day at NAB continues.