

1 that we open up a new band of unlicensed, and that
2 you have to decide the rules this afternoon. And
3 the question is, and I'd like to ask everybody.
4 I'll just take a show of hands here for a minute,
5 because there's a lot of intelligence in this room.
6 What you actually would do if you were able to
7 create a new band this afternoon?

8 First question, we've all -- we've
9 heard that if people cooperate and adopt a
10 particular protocol or some sharing thing, you
11 could get more efficient use of the band. Now the
12 problem is that technology keeps changing, the
13 protocols keep changing, and what might have seemed
14 like a good idea this year, might not be a good
15 idea next year. So the first question let me ask
16 you all, would you mandate a particular etiquette
17 in your new band? Raise your hands if you would.

18 MR. STEVENSON: I would encourage the
19 use of industry standards as the basis.

20 DR. LUCKY: How do you encourage it?
21 Look it, you've got to actually do something. The
22 band is going out there, you know. You can mandate
23 it. I don't know how you can encourage it, but
24 nobody would mandate an etiquette. Is that
25 correct?

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1 DR. deVRIES: Okay. So let me take a
2 crack at it. We haven't had enough disagreement
3 here today.

4 DR. LUCKY: That's what I'm trying to
5 get here. Okay?

6 DR. BOSE: I think we got it.

7 DR. deVRIES: So I think the first
8 thing that would be worth doing is to say yes, we
9 should have some specialization in this band. I
10 would say, since I'm going to make the rules on
11 this band, I think what we need more of is
12 broadband data networking. And so, I'm going to
13 say in this particular band, what we're going to do
14 is, we're going to say, let's say this is reserved
15 for packet data networks, number one. So no more,
16 you know, blasting TVs, you know, no baby monitors,
17 et cetera. So the second thing I'd say is we are
18 going to define some rules in terms of how devices
19 get access to that spectrum.

20 The things that already are showing up
21 in the industry, both here and overseas, are very
22 simple practices like dynamic frequency selection
23 and transmit power control. In fact, the playing
24 nice together issue is not the industry disagreeing
25 with each other. It's the industry not being able

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1 to deal with other people who are not in that
2 process responding to that, so I would say that.

3 What I would not do, and what I'm very
4 wary of is saying we are going to specify a
5 particular protocol at, let's say the medium access
6 layer that would actually say, you know, I'm making
7 some decisions about what applications, so you
8 could make a decision about the MAC layer that
9 would advance as, let's say, real time streaming,
10 but create other problems with, let's say, latency.

11 So I wouldn't actually be that specific, but I
12 think if you said dynamic frequency selection,
13 transit power control, packet data networks, then
14 you would have something to begin with.

15 DR. LUCKY: Packet networks. Okay.
16 Other comments on that?

17 MR. LEARY: Yeah. I don't -- I mean,
18 maybe I don't think it is all that complex.
19 Etiquette comes into play when you have an
20 environment where people don't necessarily play by
21 the rules that even exist. I think if you had --
22 here's a new band. Let's make it, you know, under
23 one gigahertz somewhere. Obviously, we have to
24 take into account the physical realities of the
25 spectrum.

1 I think you have a couple of very
2 simple rules like I've already touched on and Kevin
3 has, where you take in the spatial dimension, you
4 take in the time domain, you take in the spectral
5 efficiency, and all --

6 DR. LUCKY: We're not getting simple
7 any more here.

8 MR. FREEMAN: But, Paul, I think
9 actually it is simple.

10 DR. LUCKY: Okay. Fine. Let's --

11 MR. LEARY: From a manufacturing
12 standpoint, I mean, we already do automatic transit
13 power control, things like that. But the problem
14 is, you know, that listens to all the other noise
15 out there, that other system, so you if you have a
16 packet-based piece of spectrum that's based for,
17 you know, broadband data, perhaps, that eliminates
18 a lot of stuff out of the equation. And then if
19 you make it with these very ratio-based rules, then
20 the vendors are able to develop product where there
21 really virtually is no limit in terms of the kind
22 of efficiencies and the kind of improvements we can
23 see. And then you do that, and then maybe this
24 etiquette is not so necessary because the radios
25 are doing it themselves.

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1 DR. NEGUS: Yeah. I agree. I think
2 that you -- as manufacturers what we want is more
3 of everything. Okay? We want more bandwidth, more
4 power, more flexibility. And you simply need to
5 incentivize us to do the right thing, so again, you
6 get back into power. EIRP, if you give us more
7 EIRP as a function of --

8 DR. LUCKY: You're it this afternoon.

9 DR. NEGUS: Yes. Yes.

10 DR. LUCKY: You're giving me more
11 power. Part 15 is out.

12 DR. NEGUS: Yes.

13 DR. LUCKY: You're giving me more
14 power, and what about the rules --

15 DR. NEGUS: Well, let's take a specific
16 band, 54.70 or 57.25, which is a petition in front
17 of the FCC right now. If we were to say we're
18 going to allocate that band for unlicensed
19 communications, how would we write the rules? I
20 believe --

21 DR. LUCKY: Well, I'm letting you write
22 them. Okay, so you're going to raise the power
23 limit. And what about the directivity, or are you
24 going --

25 DR. NEGUS: Yeah. So that's what I --

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1 I would take up on Patrick's point. I would make
2 that the power limit is -- and we can argue over
3 formula, but at the end of the day it's not
4 complex, because as manufacturers, once we know the
5 code, the formula, we know it. So the formula
6 would be reward you for spatial orientation. It
7 would reward you for transmit power controls, that
8 is using only the power you needed. It would
9 reward you for dynamic frequency selection for
10 getting on the band, a channel, only when that's --

11

12 DR. LUCKY: You mean reward, you get --

13

14 DR. NEGUS: You would get more
15 bandwidth.

16 DR. LUCKY: -- more power if you use
17 dynamic frequencies.

18 DR. NEGUS: Correct. If you use
19 transmit power control, if you use spatial
20 orientation, if you use higher efficiency
21 modulation, all of these factors.

22 DR. LUCKY: So the incentive always
23 would be more power that you're allowed.

24 DR. NEGUS: That's what we always want.

25 DR. BOSE: Now, but that -- okay.

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1 Good, we have some disagreement.

2 DR. LUCKY: Okay. Good.

3 DR. BOSE: So, okay. Let me -- I'm
4 going to answer your question by putting up a
5 strawman of what I would do with that band.

6 DR. LUCKY: Okay. You're it.

7 DR. BOSE: Yeah. So fundamentally, you
8 know, there's a band, and I -- if I'm the
9 Commission now, I'm not omniscient enough to know
10 what the best use is. And I certainly don't know
11 what the best use is going forward in the future,
12 but I know people are going to want to use it. And
13 I know that to some reasonable degree, they
14 shouldn't interfere with other people, so what I
15 propose is you have a band, and you're able to go
16 licensed, for lack of a better term, for ten
17 minutes, ten days, ten hours, for a certain
18 geographic location any piece of that, subject not
19 to an etiquette, but certain rules. And the rules
20 -- the key thing with the rules is the Commission
21 has to set not only emission standards, but minimum
22 receiver standards, because that's the only way you
23 can deal with increased background level which
24 you're going to get from these systems, so I
25 propose the following.

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1 For any chunk of band that you're going
2 to limit in my new band here, you have a limit on
3 the bandwidth, and you pay for that much. You have
4 a limit on the power you can radiate in that
5 bandwidth, and a limit on the absolute out-of-band
6 emissions going out as a function of frequency.
7 That's the emitter limitations.

8 On the receiver side, you're going to
9 say look, you can work in this, but your receivers
10 have to tolerate a certain amount of background
11 noise, a certain amount of co-channel interference,
12 a certain amount of adjacent channel interference.

13 That's it.

14 Now by setting that rule, my emissions
15 parameters guarantee that the guy in the next chunk
16 of band over, is his receiver is doing what I've
17 said it needs to do, my emissions won't interfere
18 with him, and vice versa.

19 Now within that, I have this chunk of
20 spectrum. If I want to do a data network, that's
21 fine. If I want to do voice networks, that's fine.

22 Where does the spectrum --

23 DR. LUCKY: So you're not going along
24 with this data network stuff.

25 DR. BOSE: Well, no. I'm generally a

1 fan of data networks, but there are many types of
2 data networks, and there are certain data networks
3 that have QRS guarantees. There are certain ones
4 that allow lower latency. There are ones that
5 allow wider bandwidth, so there's no one solution.

6 Fundamentally, everything is data, and
7 it's how you use it, but I would let the market
8 decide, and let the people deploy what they want.
9 Give them the spectrum to use. Let them pay for
10 it, or license it, however you want. Make sure
11 they don't interfere with other people, and let
12 anyone else do whatever they want next to them,
13 subject to those same rules.

14 DR. LUCKY: Okay. So you're really
15 adding the element of receiver regulation in your -
16 -

17 DR. BOSE: I think it's essential.

18 DR. LUCKY: Very interesting, yeah.

19 DR. BOSE: Yeah, because, you know,
20 otherwise you wind up with the UHF TV again.
21 Right? What limits the efficiency of UHF TV is
22 those lousy receivers that --

23 DR. LUCKY: Now in your band are you
24 going to do what Kevin suggested, have incentives
25 for people with directive antennas and stuff like

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1 that?

2 DR. BOSE: I would like to see the
3 incentives come in in the market, so I'm going to
4 pay for that spectrum, lease it for -- even if I
5 lease it for ten minutes. And the amount I pay is
6 proportional to what I think the use is. And gee,
7 if I can get more calls and more data through, I'm
8 willing to pay more, so there's -- I would like to
9 see the economic incentive be there for more
10 efficient spectrum, yes.

11 DR. LUCKY: Who would you pay?

12 DR. BOSE: So there's two ways to do
13 it. The one is, people license bands, and then we
14 need secondary markets, fluid sub-licenses, a
15 spectrum market, so you pay whoever the current
16 holder is.

17 Another way, which I'm not as big a fan
18 of is, it's the FCC. And you keep going to some
19 central server and paying them a few nickels every
20 time you want to get a chunk.

21 DR. LUCKY: I think one of the problems
22 there could be transaction costs, if you get --

23 DR. BOSE: Yeah, okay. There are
24 always transaction costs, but I think there's two
25 components to that. And the big one today is

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1 really in figuring out your legal liability if you
2 interfere, et cetera. I mean, what I heard in some
3 earlier meetings was that the biggest transaction
4 cost is just getting the lawyers into the rooms for
5 both companies to figure out if we trade the
6 spectrum or let you use it, what's our liability.

7 DR. LUCKY: It's a real cost.

8 DR. BOSE: But now, if you limit the
9 receiver and transmitter, as long as you abide by
10 those, you've limited your liability. And I think
11 yeah, transaction costs are high today, but there
12 are plenty of models. I mean, let's go right to
13 the stock market. Well, why shouldn't we think of
14 this as a commodity like stocks, where transactions
15 can become very low? They might not be low on day
16 one, but they should be able to get there, if
17 demand for spectrum is there.

18 DR. LUCKY: Okay. Let me open it up to
19 the audience. You've got this band this afternoon.

20 Anyone have a proposal what they want to do? In
21 the back.

22 MR. REED: Yeah, David Reed, Reed.com.

23 I think the crucial thing that I would do, and I'm
24 very much a fan of letting the market decide what
25 it's going to do with it, but the crucial thing

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1 that enables a market to decide is the ability to
2 change its mind. And so, the single primary thing
3 I would do is require that the radios in that band
4 be cognitive. And the definition for me of
5 cognitive is an extension of the idea of a
6 software-defined radio, so that they can, over
7 time, adopt new etiquettes that work better than
8 the old ones that didn't work very well.
9 Certainly, the first draft will be wrong.

10 And second, they have the ability to
11 sense a much wider part of their environment than
12 just the signals they're trying to receive, so in
13 order to enable all of this stuff we're talking
14 about, you've got to have receivers that can, you
15 know, bond to what's going on, that enable the kind
16 of etiquettes to work. So the key thing here --
17 and then the other thing I would require, which is
18 sort of number two that this enables, is network
19 cooperation; that is, that it should be legitimate
20 and required that you minimize your emission by
21 what we call cooperation gain, which is the notion
22 that through repeaters, or coding, or whatever, you
23 jointly use the minimum energy possible to get all
24 the signals of all the participants, rather than
25 having competition on a point-by-point basis.

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1 You know, one of the flaws with some of
2 the traditional etiquette things are they're
3 centered on one node doing what's good for it, and
4 that's an unstable economy, even when you put a
5 market framework underneath it, because it doesn't
6 incent cooperation. So what you've basically got
7 to do is say that the etiquettes which might be
8 deployed by consortia or groups of users, you know,
9 need to be changeable over time. That's the
10 software-defined radio part, and auditable by
11 outside parties to see if they're doing the best
12 they can, or are --

13 DR. LUCKY: Okay. So you've got a new
14 band called the cognitive radio band.

15 MR. REED: Right.

16 DR. LUCKY: And it's the certain basic
17 policies that people must adopt to use this band,
18 and one is cooperation.

19 MR. REED: Right. And the way to
20 enforce cooperation is a market means of
21 cooperation, which is basically that if you don't
22 cooperate, you don't get to join these large
23 beneficial networks, and you're left out in the
24 cold.

25 DR. LUCKY: So the FCC decides if

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1 you're playing by the right rules with your
2 cognitive radio?

3 MR. REED: No, the other -- the
4 networks are allowed to, for example, refuse
5 service to you. So if some network is, for
6 example, providing --

7 DR. LUCKY: Who is the network here?

8 MR. REED: A network is a collection of
9 nodes that decide to cooperate, operate on
10 cooperative protocols. We know that good networks
11 tend to have increasing returns to scale, and so
12 there's a strong incentive to cooperation built
13 into the network. And if those networks have
14 access to such things as the public internet. In
15 fact, if they have a say, you know, a collection of
16 T3s distributed around the city, by merely refusing
17 to provide Internet access, they create a huge
18 disincentive for non-cooperation, so I think we can
19 use the networking level to incent cooperation
20 without very much FCC involvement.

21 DR. LUCKY: Yeah. TCP is such a great
22 example of that kind of thing. Anyway, comments?

23 MR. LEARY: Whatever happens,
24 cooperation, etiquette, predominantly it needs to
25 be something that's done electronically, because

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1 there's -- and here's a point I'm always big on
2 that very few people, especially in the -- I don't
3 have the burden of a Ph.D.

4 Sociologically, things are done very,
5 very different in unlicensed as they are in the
6 licensed community. You've got to account for the
7 way people use technology. And in the unlicensed
8 space, you are always going to have a large degree
9 of cowboys out there, whatever extent. So
10 cooperation, etiquette, all these things and, you
11 know, playing nice, if they require people to do
12 these things, it's not going to happen very well.
13 Predominantly, it has to exist within the
14 technology itself.

15 DR. BOSE: Are you talking about
16 cowboys within the rules, or cowboys that break the
17 rules?

18 MR. LEARY: Cowboys that break the
19 rules.

20 DR. BOSE: So people who use 5 watts in
21 the --

22 MR. LEARY: In the unlicensed
23 community, it's chronic. And it's just the way
24 it's always going to be, because it's human
25 behavior.

1 DR. BOSE: Is it a problem? Who's
2 getting hurt?

3 DR. LUCKY: I've got to say something
4 on the other side myself. I mean, I think you can
5 concentrate too hard on the idea that people could
6 break the rules, because I think the predominant
7 manufacturers of equipment will play by the rules.
8 And that occasionally, you get somebody who
9 doesn't, and make an example of them. And I just
10 wouldn't personally --

11 MR. LEARY: It's not the manufacturer.
12 It's the implementer.

13 MR. FREEMAN: How do you catch them?

14 MR. LEARY: The manufacturers I'm not
15 worried out. It's the implementers.

16 MR. FREEMAN: How do you catch them if
17 they're not registered, and you don't know where
18 they are?

19 DR. LUCKY: Well, I mean, I just think
20 you can over-emphasize that as a problem. Let me
21 go on, just personal opinion.

22 MR. CRAIG: Andrew Craig, Wireless
23 Communications Association. Picking up on this
24 last dialogue, but also the original question of
25 the imaginary rules for the new band, a quick

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1 comment and a question.

2 I think it's very significant in
3 listening to the discussion that the two, or two
4 representatives of the outdoor last mile community,
5 a leading manufacturer and an operator, are both
6 trying to focus the attention on a distinction
7 between unlicensed and registration. And for one
8 thing, I think that brings out the value of this
9 kind of wide ranging discussion, but the question
10 is, how do those who are primarily in the software
11 arena, or indoor arena, think that that would play
12 out? Again, that distinction between some kind of
13 idea of registration, so that people can coordinate
14 in what will always be unlicensed bands?

15 DR. NEGUS: Well, I can tell you for
16 starters, there is no coordination for mobile
17 devices. If what we're suggesting from the fixed
18 wireless side is that you're going to have a
19 national registry of coordination on fixed devices,
20 I think that's one solution to the problem. I
21 think that self-organization and self-registration,
22 if you like, by cognitive radios that can do this,
23 is probably a better long term solution. I think
24 that's a short term view.

25 But for mobile devices in the indoor

1 environment in the last 100 feet, this is nonsense.
2 I mean, you're not going to coordinate them. They
3 have to self-coordinate. They have to be able to
4 sense the environment, and the technology exists.
5 That's not the same thing as saying that the
6 devices today, based on the standards that we have
7 today, they don't do that, but the technology
8 completely exists. And I think what the FCC should
9 be doing is incentivizing us, as manufacturers, to
10 use that technology.

11 DR. deVRIES: I'd just like to pick up
12 on a point you made, Bob, in terms of, you know, if
13 we create any rules, what happens to them as
14 technology changes? And I think that's a very
15 interesting point, because there's always a tension
16 between a desire for stability, and a desire for
17 innovation. It's like, you know, do you want to
18 pay less taxes and get more services? Yes. It's
19 the same kind of thing, and so one of the things I
20 speculate that may be interesting to do is when one
21 actually creates, you know, new experimental
22 unlicensed regimes, or licensed in different ways
23 regimes, that one actually puts a time limit on
24 them, or a sunset on them.

25 One of the things that's really common,

1 you know, in the PC world is that, you know, the
2 technology rolls over every few years. And, you
3 know, nobody really goes out and buys software for
4 a 286 IBM PC any more. You know, what we do know
5 is that capacity and the ability to use capacity
6 will grow. It's interesting to compare with the
7 spectrum because there's actually somebody at
8 Microsoft who once said, you know, who would want
9 to use more than 256 kilobyte of RAM? You know,
10 we're now up to machine shipping with a thousand
11 times as much, so the rules that are created, and
12 it would appear as if in the short term in the
13 transition, there should be rules.

14 It should definitely be done in such a
15 way that there is some assurance for people who are
16 deploying devices to comply with those rules. But
17 then at a later date, there may be new ways of, you
18 know, operating the same spectrum. Which, in fact,
19 takes you to a question of backwards compatibility.

20 Anything that's new needs to not break what went
21 before, but can do new things in new ways.

22 DR. LUCKY: Okay. Let me just
23 summarize for a minute now. The proposition was
24 that we have th is new band, and we were talking
25 about rules. And some of the things I heard was

1 first, you make it for data networks. That was one
2 proposition. Another -- packet. Yeah.

3 Then we heard a proposition that you
4 could incentivize behavior by giving more power for
5 certain things that you could do here, like agile
6 frequencies and things like that. Then we heard
7 the idea of regulating receivers in this band.
8 Then we heard the idea of a cognitive band where
9 people bring -- you have to have a cognitive radio,
10 and we heard the idea of sunset clauses on this new
11 band.

12 Now does anybody have any other
13 suggestions about our new band? Okay. Over there.

14 MR. LAHJOUJI: Ahmed Lahjouji, FCC.
15 Just on the issue of spectral efficiency, we should
16 be very specific as to what kind of performance we
17 need these technologies that are going to be
18 competing in this new chunk of the bandwidth.
19 After all, the idea here is a better use of the
20 spectrum, so we're going to say okay, if you want
21 to compete here, this is the kind of performance
22 that you must have.

23 DR. LUCKY: So you would require a
24 certain level of performance efficiency. But
25 suppose that interferes with other people when

1 you're doing it?

2 MR. LAHJOUJI: Well, when somebody
3 talks about receiver design and all of those
4 issues, that pretty much takes care of
5 interference. You know, that can be done at
6 multiple fronts. I'm focusing primarily on the
7 spectral efficiency, better use of the spectrum.

8 DR. MARCUS: Would you have that
9 efficiency varied between rural areas, and urban
10 areas, and indoor areas, or would you have the same
11 for everybody?

12 MR. LAHJOUJI: I'm thinking along the
13 line of --

14 DR. MARCUS: I think that's the crux of
15 the issue.

16 DR. LUCKY: Well, that was actually my
17 next question. And let me go to Kevin, of course.
18 In your thing, would you give special allowance,
19 because you're allocating power in your band.

20 DR. NEGUS: Yeah.

21 DR. LUCKY: Would you give people out
22 in the rural Nebraska more power than people in New
23 York City?

24 DR. NEGUS: Yeah, absolutely. I think
25 you have to take geographic location into effect,

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1 but speaking as someone -- I live at a ranch in
2 rural Wyoming. As someone who lives in a rural
3 community, I think it's -- that concept should go
4 far beyond just this new band. I think that if you
5 look at where we are, the spectrum is completely,
6 overwhelmingly, unbelievably under-utilized, yet it
7 is illegal for us to do the logical thing.

8 DR. LUCKY: How would you define
9 "rural" in your new band? I mean, how do I know
10 when you're qualified for this power?

11 DR. NEGUS: I think that this gets back
12 to the issue of the GPS, and doesn't necessarily --

13

14 DR. LUCKY: No GPS.

15 DR. NEGUS: I know. I was going to
16 say, it doesn't need to be GPS, but I mean the
17 point is, if you generally -- certainly with a
18 fixed system, with a fixed wireless system you know
19 where you are. We use GPS in our fixed wireless
20 system --

21 DR. BOSE: Is the issue --

22 DR. LUCKY: How do you --

23 DR. BOSE: The issue isn't rural or
24 urban, the issue is crowded spectrum or not crowded
25 spectrum.

1 DR. NEGUS: Exactly. And again, it's
2 self-organizing.

3 MR. FREEMAN: You've got NTAs, you've
4 got BTAs. I mean --

5 PARTICIPANT: I'm not convinced it
6 changes over time.

7 DR. BOSE: I think you determine it by
8 -- the comment on the first panel was great, which
9 is the FCC should be measuring what they're
10 regulating. And, you know, not too many receivers
11 or people who are willing to cooperate and send
12 back information from their local area will get you
13 a good picture of what's being done in the spectrum
14 in different places.

15 DR. LUCKY: Okay. So your receiver
16 measures the power around it, and decides whether
17 it's in a rural area or not.

18 DR. deVRIES: Yeah. Because, I mean,
19 otherwise, you know, areas where ten, fifteen years
20 ago was forest. There was nothing there.

21 DR. LUCKY: So in this band the
22 receiver looks at some integrated whatever across
23 the spectrum, and decides whether it can use more
24 power or not. And that's type-certified or
25 something.

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1 DR. deVRIES: The way to think about
2 that is if you get from certifying by a set of
3 characteristics, to certifying on the kind of
4 behavior. So the way in which you would certify
5 this device is you would put it, you know, you
6 would put it through a bunch of tests and say, you
7 know, under these circumstances how does this
8 device behave? And if it behaves in the way that
9 it's supposed to behave, then it's okay.

10 DR. LUCKY: Certify behavior, okay.
11 Yes?

12 MR. REILLY: I'd like to just go back
13 to again to -- I think what was fundamental to the
14 Part 15 was to establish some rules that allowed
15 for a lot of innovation, and didn't overly specify
16 what was being provided. There are lots of good
17 ideas that have been suggested, and I'm sure at one
18 point in time all of them will have some place.
19 But to think that you would establish rules that
20 specify all of this in detail at one point in time,
21 and then have a technology be able to evolve, the
22 simplicity of it with regard to unlicensed not
23 requiring the user to do anything but purchase,
24 install, operate and maintain, they have rules that
25 were very simple and fundamental, that provide an

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1 environment in which manufacturers commit resources
2 to develop products, knowing what that situation
3 was, recognizing what the interference would be
4 from other situations initially.

5 Now we've talked about various
6 mitigation techniques. Those will be incorporated.

7 I think the panel has suggested manufacturers
8 cooperate. It's to our advantage to come up with
9 techniques that will, in fact, allow these things
10 to operate, so we'll make those decisions
11 consistent with economics, market, et cetera, and
12 technology evolution. So I think if we minimize
13 the amount that the FCC specifically specifies but
14 create an environment that will be a launching pad
15 for this. That's the best that the FCC could --

16 DR. LUCKY: Well, let me translate this
17 into specifics. Would you buy his power?

18 MR. REILLY: The total power control,
19 TPC, that's --

20 DR. LUCKY: Well, he's going to give
21 you allowances, incentivize the power. Would you
22 buy that?

23 MR. REILLY: I would think that would
24 be an option that the user might have with regard
25 to, perhaps, capabilities that might be available

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