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2

NCC GENERAL MEMBERSHIP MEETING

3

Washington, D.C. - June 2, 2000 (11:48 a.m.)

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A F T E R N O O N S E S S I O N

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7 MS. WALLMAN: Good morning and welcome to the
8 meeting of the NCC. I think we are going to try to
9 accommodate schedules and do the meeting with appropriate
10 deliberation but also expeditiously too.

11 We are starting a little early today in hopes that
12 some folks who needed to get mid to late afternoon flights
13 out would be able to do that, and still attend the whole
14 meeting. So we are starting before noon, and I'm going to
15 ask Michael to elucidate the schedule for today.

16 MR. WILHELM: Although we announced on the web
17 server that there would be a lunch break in the course of
18 the meeting, as Kathy said, some people have early airplanes
19 so we are cancelling the lunch break. Feel free to order a
20 pizza or whatever you feel necessary.

21 There will be a slight change in the agenda.

1 Following the introduction and welcoming remarks, we will
2 cover administrative matters and then go directly to the
3 reports of the three subcommittees. There will be documents
4 submitted to the steering committee by the subcommittee for
5 approval.

6 That will be followed, and we may have to
7 interrupt, but that will be followed at 1:00 by some remarks
8 of Ari Fitzgerald who is legal advisor to Commissioner
9 Kennard, and he will advise the general membership on the
10 status of the FCC items that were prepared in response to
11 the report and recommendations at the FCC submitted -- the
12 NCC submitted in February.

13 Following that, Dr. Charles Jackson will speak on
14 software defined radios, and then we will hear from Bruce
15 Franca and Richard Engelman on the Canadian-United States
16 digital letter of understanding, which was also discussed
17 this morning. And Bob Schlieman is also prepared to present
18 some material on that following Mr. Franca's and Mr.
19 Engelman's presentation.

20 That will be followed by a discussion of upcoming
21 meeting dates and location and closing remarks. So to the

1 extent that you have looked at the agenda, it's been
2 modified.

3 Thank you.

4 MS. WALLMAN: Okay, why don't we start right away
5 from David Buchanan, who has graciously agreed to take the
6 leadership role on the interoperability subcommittee in John
7 Powell's absence this time.

8 MR. BUCHANAN: Thank you.

9 The interoperability subcommittee, we accomplished
10 quite a few things between yesterday and actually a little
11 bit this morning. One issue, Work Group 2, which is working
12 on the issue of the Incident Command System, and whether
13 that should be used on the --

14 MS. WALLMAN: Excuse me, Dave. Can you pause for
15 one administrative announcement here?

16 MR. BUCHANAN: Sure.

17 MR. WILHELM: Thank you. I'm sorry I neglected to
18 do this earlier.

19 Would you sign for me, please? If there is
20 anybody in the audience who is hard of hearing or deaf and
21 needs sign language interpretation, would you please stand?

1 Seeing none, we will dispense with sign language
2 interpretation for the rest of the meeting and excuse our
3 sign language interpreter with thanks.

4 MS. WALLMAN: Sorry, Dave. Thank you.

5 MR. BUCHANAN: Okay, no problem.

6 Anyway, the Work Group 2 is working hard on the
7 issue, but there is still some outstanding things that they
8 weren't able to get together for this meeting, so they are
9 going to defer any action until September on that.

10 And Work Group 3 and Glen Nash will also report
11 some on this because it involved also the technology
12 subcommittee. We looked at several proposed changes to the
13 band plan and really out of three options we decided to
14 modify one of the options, which has become know as the
15 Wells Option, and made those modifications. They are
16 available, still a few copies in the back room.

17 And we feel that we have -- with the modification
18 to that band plan it fixes the problem that was originally
19 in the band plan in that the interoperability channels were
20 not spaced far enough apart to make it easy to combine
21 channels. So we will be submitting that to the steering

1 committee for consideration.

2 That triggered also the realization that any
3 changes to the band plan we're going to have to make some
4 editorial changes to our labeling of the interoperability
5 channels. It's been done for that band plan. If that is
6 not accepted by the FCC, then whatever plan changes may come
7 about we will have to take a look at the labeling that we
8 came up with and make it fit with the band plan.

9 Again, as we worked into -- realize that we were
10 working on the wideband data and we have done work on the
11 narrow band data, that we need to go back through our
12 documents which addressed voice needs and make sure that
13 they are compatible with what we have come up with for data,
14 and then any additional work that needs to happen on that.
15 So that will be an upcoming event for September, and some of
16 it will be out, or actually, I think Carlton is planning to
17 put it onto the web server between now and September so
18 everyone can look at it.

19 Another issue that we had, we recommended on the
20 interoperability mutual aid agreements that we wanted to
21 encourage state interoperability executive committees, and

1 the wording that got into the document ended up saying that
2 basically it could be interpreted that we were mandating
3 that the states form interoperability executive committees.

4 Obviously, we can't mandate the states to do
5 anything. All we can do is encourage them. So we have
6 changed one word from "shall" to "should" and also included
7 "mutual agreement with the regional planning committees,"
8 because it should be an interactive process between the
9 states, the regional planning and, of course, all the local
10 communities in each state.

11 So hopefully most, you know, states will be able
12 to step up and address this issue. But if they can't or
13 they don't want to or the local conditions are such that it
14 doesn't make sense, then they have the option of forming the
15 mutual aid agreements through the regional planning, and I
16 think that's what we basically presented to the steering
17 committee, and it was approved and it's in the February
18 report. I think the wording just ended up being a little --
19 on reflection -- a little too harsh or a little too strong
20 towards mandating.

21 So we are going to recommend that change also for

1 the steering committee to consider.

2 The last item of business and the one that took
3 most of the time in the meeting was finalizing a statement
4 of requirements for wideband data standards that we need to
5 present to TIA so that they can get started with their work.

6 It's been a difficult process in that for narrow
7 band data, I think the manufacturers understand it well, the
8 users have been doing it for the last 15 - 20 years, and we
9 understand it well from a user standpoint. But when we
10 moved into wideband data there was a lot less knowledge, a
11 lot more uncertainty so it took a lot more work to work
12 through the issues and come up with something.

13 But I think we have done that. We took the draft
14 two that was on the list server, made several modifications,
15 and I have copies of that to present to anyone on the
16 steering committee that hasn't received it yet.

17 And what we would like to ask, because of the time
18 frames of TIA, they have a meeting next week, we would like
19 you to consider approving that as a final document to be
20 given out by Wayne Leland to the TIA committees next week so
21 they can get started.

1 There was -- after we made the changes and agreed
2 to everything, we had no opposition, nobody jumped up to
3 complain about anything. We think it's a good document and
4 that it should meet the needs.

5 And that concludes my remarks.

6 MS. WALLMAN: Thank you.

7 Are there any questions from the steering
8 committee for Mr. Buchanan?

9 MR. MCEWEN: One thing, Dave, that I would -- I
10 didn't realize that they had -- on the state
11 interoperability executive committee, I want to again put on
12 the record the fact that the IACP is opposed to anything
13 that would -- you said you're changing the word to "should".
14 I would prefer that the word says "may".

15 In other words, this process, in our view, should
16 be driven by the regional planning committees, and not by
17 any state entity where there could be political control. It
18 should be done by the users.

19 MR. BUCHANAN: Yeah, and that's what we realized
20 when we went back and looked at the wording in the February
21 25th report, that it didn't come out the way you are

1 describing it, and that's what we thought by changing a
2 "shall" to a "should" would do that.

3 MR. MCEWEN: Well, I would recommend that it be
4 "may".

5 MR. BUCHANAN: "May" doesn't -- "may" is fine
6 also. We just don't want -- if you read it now, you could
7 interpret that it's mandated that the states form those
8 committees and are in control of the process, whereas what
9 was envisioned was that the regional planning groups and the
10 states and all of the local users would collectively decide
11 which way they want to go and that's why we want to make the
12 changes.

13 I haven't passed that document out because we need
14 to revise it and double check it so "may" is fine with me.
15 We may just want to finalize that at the September meeting
16 before we actually give it to you then.

17 MR. MCEWEN: Yeah, I think the word "should" is
18 very encouraging, and the point is that if a particular
19 region or area wants to do it, I don't object to that if it
20 comes from the users driving the process.

21 But when you get a multiple -- you talked about in

1 the meeting the multiple state/region or the multiple region
2 in a state, and the problem -- you know, I will give you a
3 good example of my concern is that like in the New York
4 region where you've got Connecticut, New York and New Jersey
5 involved if you start getting involved with state
6 interoperability executive committees, you will never get
7 anyplace. Those three states will never agree to anything.

8 And so what's going to happen is the regional
9 planning board or the regional planning committee is going
10 to be hamstrung. They are just going to get no place. I
11 mean, I've been around too long to know that you're going to
12 have different points of view.

13 If you let the users drive it, the public safety
14 users and the regional planning committee representing the
15 people in the various states, the three states, they will do
16 what's best for the users, and they won't be, I think, so
17 much driven by political interests of whether it's the
18 governors in charges, or the attorney generals in charge, or
19 the fire chiefs associations in charge. It gets very
20 complicated. When the users come together, they usually
21 come to some agreement among themselves.

1 MR. BUCHANAN: Okay, well, that is our intent in
2 those changes.

3 MR. MCEWEN: Okay.

4 MR. BUCHANAN: I also might point out just for
5 clarification that it is mandatory to sign a mutual aid
6 agreement, whether it's at the region level or the state
7 level who actually use it.

8 MR. MCEWEN: Right.

9 MR. BUCHANAN: And I think the sense of everyone
10 was that that's still needed, and that was intended to be
11 mandatory.

12 Thank you, that's all.

13 MS. WALLMAN: Other questions from the steering
14 committee members?

15 (No response.)

16 MS. WALLMAN: Any questions from the floor?
17 You don't get away quite so quick. Any questions?

18 (No response.)

19 MS. WALLMAN: Okay. All right, thank you very
20 much and thanks again for stepping up.

21 MR. BUCHANAN: You're welcome.

1 MS. WALLMAN: Thank you. Could we hear next from
2 Glen Nash for the technology subcommittee?

3 Glen, we're going to just pause for one minute. I
4 want to get a bit of advice from Michael about --

5 MR. DEMELLO: Advanced a revised band plan for the
6 steering committee's consideration, it might be appropriate
7 at this time to get the consensus of the --

8 MS. WALLMAN: Right. Yeah, and I think we had a
9 good suggestion from Doug that we consider these items apace
10 with presentation from the subcommittees.

11 MR. NASH: Yeah, but that's also part of my
12 presentation so I'm more than happy to let you decide on it
13 and then I can take it off my list.

14 (Laughter.)

15 MS. WALLMAN: All right, do we have some
16 expressions of assent or dissent from this suggestion so
17 that I can get a feel for the consensus or not of the
18 subcommittee.

19 THE AUDIENCE: I believe I agree.

20 THE AUDIENCE: I agree.

21 MS. WALLMAN: No reservations?

1 Okay, I will take that as an expression of
2 consensus. Thank you, Dick.

3 Glen? Oh, sorry. Wayne?

4 MR. LELAND: I think we need to deal with the user
5 needs document which we want to have the steering committee
6 approve so that we can take that back to TIA as an NCC
7 approved document to get started on the wideband data, which
8 has also been submitted by Dave, I believe.

9 MS. WALLMAN: Do people feel they have had
10 adequate exposure to this document to have an opinion about
11 it now?

12 Okay, any expressions of dissent from a consensus
13 on adoption -- not adoption but expressions of good, so I
14 can arrive at a consensus of the group.

15 MR. MCEWEN: I think there is one error in here.
16 You want to try to fix it while we --

17 MS. WALLMAN: Sure.

18 MR. MCEWEN: I don't like to wordsmith it, but do
19 you have a copy of it, Glen?

20 MR. NASH: Have a what?

21 MR. MCEWEN: Have you got a copy of it?

1 MR. LELAND: It's David's document.

2 MR. MCEWEN: Huh?

3 MR. NASH: It's David Buchanan's document.

4 MR. MCEWEN: Oh, David's.

5 I'm assuming under nine, under examples of uses
6 and interoperability incidents, that that's got something
7 missing there. It says in the second sentence, "While the
8 basic fingerprint in black and photos," I'm assuming you are
9 talking about black and white photos?

10 MR. BUCHANAN: Oh, yes, black and white.

11 MS. WALLMAN: Okay. All right, we will note that
12 correction.

13 All right, so I hear no expressions of dissent. I
14 am prepared to saying that we have arrived at consensus on
15 this. Any other comments?

16 (No response.)

17 MS. WALLMAN: All right. Thank you again, Dave.

18 Glen?

19 MR. NASH: Okay, as I say, you just took care of
20 item number one on my report, which was the revision of the
21 frequency plan.

1 The next item down, we had some presentations from
2 the -- particularly from the federal people relative to the
3 encryption standard. Again, they are asking that we delay a
4 decision on that until September in that they are still
5 looking at the state of whether -- you know, to move just
6 the tripe DES or just the bypass triple DES and move right
7 straight to AES as the recommended encryption standard, and
8 they expect to have an answer for us, and in fact, I told
9 them they will have an answer for us at the September
10 meeting.

11 Similarly, with the receiver performance
12 standards, we had a presentation on that and some discussion
13 as to whether or not we should establish minimum standards
14 for receiver performance, what those minimums should be,
15 whether there should be an A and a B area, and what that
16 would mean for the frequency coordination process. And
17 again we do not have a specific recommendation for the
18 steering committee at this time.

19 We did have a -- you know, what kind of attaches
20 to the action that you just took relative to the wideband
21 data. There are some technology issues that were presented

1 in a paper that's identified as Draft No. 1 dated 5-10-2000.

2 Specific recommendations in that included the
3 standards should meet or exceed the FCC non-correct data
4 rate of 384 kilobits per second; that the TIA should explore
5 the constraints and expect to develop time frames for
6 portable units; just give us some feel for what we can
7 expect there and how that might affect some of the decisions
8 we make; and third, that TIA should be asked to investigate
9 the error and data throughput degradation issues that might
10 affect -- might result from mobile ground speed, both at, if
11 you will, the slower stationary mode of operation and also
12 at a higher speed, highway speed or pursuit speed type of
13 thing.

14 So I would ask that the steering committee approve
15 the recommendations as put forth in that document which then
16 also goes to TIA for the development of the wideband
17 standard.

18 Finally, we had some discussions relative to the
19 software defined radio. It probably would have been nice to
20 have heard the presentation we're going to have this
21 afternoon before we had our discussions on it.

1 But the technical subcommittee has some specific
2 concerns, and quite frankly, we did not have time to review
3 the document thoroughly and come up with any specific
4 recommendation as to whether or not software defined radio
5 should be developed or not developed, you know, as a broad
6 concept.

7 But we do have specific concerns that if, you
8 know, taken to their ultimate end where a software defined
9 radio can operate on any frequency and any mode at any time,
10 that that presents certain concerns relative to misuse of
11 those radios.

12 And so we have prepared a draft statement for the
13 NCC to forward to the Commission on that issue. That was
14 distributed this morning as identified as the revised draft.

15 There were some minor modifications made to that revised
16 draft that I believe everyone is aware of, and I have given
17 Kathy a copy of that with those changes.

18 So I would ask that the steering committee approve
19 that revised draft.

20 That concludes my report.

21 (Aside.)

1 MS. WALLMAN: Are there questions from the
2 steering committee members for Glen?

3 Ernie?

4 MR. HOFMEISTER: Ernie Hofmeister from Com-net
5 Ericcson.

6 Glen, the technology issues that you just handed
7 out, Draft No. 1 dated 5-10-2000, that really looks like
8 that's a revision from what we were working from yesterday
9 which sort of has the same label on it?

10 MR. NASH: I'm going to have to bow to David. He
11 did this.

12 MR. BUCHANAN: Yeah, that was the revision from
13 yesterday's document, and what it did is made it go along
14 with the statement of the requirements changes, so it took
15 out several things from that document, and that was the
16 other one we looked at this morning too.

17 MR. HOFMEISTER: I think it should be called Draft
18 No. 2 instead of Draft No. 1 with the --

19 MR. BUCHANAN: Yeah, you're right.

20 MR. HOFMEISTER: Just to save confusion.

21 MR. BUCHANAN: Yeah, and I didn't get the updated

1 date on it in the process of trying to change it.

2 We also discovered a couple of typos in it so
3 we've got to fix those, so I think we can fix all of that
4 up, but the basic -- I don't think there was any changes to
5 the basic recommendations as revised.

6 MR. HOFMEISTER: Yeah. No comment on the
7 recommendations, just the administrative dating, that's all.

8 MR. BUCHANAN: Okay. I will get that fixed for
9 you.

10 MR. LOEWENSTEIN: Dave, is there a paragraph or a
11 sentence on this that we can determine which one of the
12 documents we have in front of us beings they both say Draft
13 1.

14 MR. BUCHANAN: No. The original -- did the
15 original document -- I'm not sure if the original document
16 said "Draft 1" on it. It just said "Draft." So if you
17 have the Draft 1, you have the one that was changed.

18 MR. LOEWENSTEIN: Okay. Thank you.

19 MR. HOFMEISTER: Actually, I don't think that's
20 correct, Dave. It has Draft 1 on it too. The original one
21 had four recommendations, your revised one has three, if

1 that's one way to look at it.

2 MR. BUCHANAN: Okay.

3 MR. NASH: That's what we tried -- get for trying
4 to do things quickly at night over -- too much beer, Dave.

5 MS. WALLMAN: Are there questions from the floor
6 for Glen?

7 (No response.)

8 MS. WALLMAN: So the question that I could use
9 your guidance as to consensus on is whether we are prepared
10 to advance this document to the FCC -- excuse me -- TIA.

11 Do people feel they have spent enough time with it
12 to be comfortable expressing a view?

13 (No response.)

14 MS. WALLMAN: Okay. Are people comfortable with
15 advancing this to TIA?

16 THE AUDIENCE: I think we should move it forward.

17 MS. WALLMAN: I'll take that as an expression of
18 consensus that we should move it forward to TIA.

19 MR. NASH: Okay, thank you.

20 And what about the draft statement on SDR?

21 MS. WALLMAN: Do we have a draft statement on SDR?

1 That's the one-pager, right?

2 MR. NASH: That's the one-pager, right. It says
3 "Revised Draft," and then there were some modifications to
4 the revised draft.

5 MS. WALLMAN: Doug, do you need a copy?

6 MR. AIKEN: I was going to say if you have another
7 copy, I would like one.

8 MR. NASH: Sure.

9 MS. WALLMAN: And there were copies of this out
10 and about this morning, is that right?

11 MR. NASH: Yes. And with that, if I might, that
12 was -- that was the revised draft before the final revision
13 that was done at this morning's meeting. So working from
14 that in the second paragraph at the word, "Whether this
15 ultimate implementation," that would become a new paragraph.

16 In the third paragraph where it says, "To the extent that a
17 n SDR might allow," that's being changed to "To the extent
18 than an SDR allows an individual to program..."

19 The next sentence down, "Approved through FCC
20 processes and procedures, this increases the possibility
21 that misuse..." and the next sentence down from that is,

1 "The NCC is concerned that such misuse may further increase
2 interference problems."

3 And then the final paragraph, "The NCC recommends
4 that the Commission consider provisions for enhanced
5 enforcement of the rules."

6 Thank you.

7 MS. WALLMAN: Do people feel that they have spent
8 enough time with this to be able to advise on consensus?

9 THE AUDIENCE: Yes.

10 MS. WALLMAN: Any concerns?

11 THE AUDIENCE: No.

12 MS. WALLMAN: Okay, I'll take that as an
13 expression of consensus that we advance this document.

14 MR. NASH: Thank you.

15 MS. WALLMAN: Thank you very much, Glen.

16 Okay, and then could we hear from Lieutenant
17 Dempsey on implementation.

18 MR. DEMPSEY: No, I'm not giving a presentation.

19 I just made my notes in my word processor, so it will be
20 short.

21 The writing group, work group has continued to

1 meet and refine our two documents that we have presented,
2 but we will be very close to completion by the September
3 meetings.

4 No further comments or recommendations have been
5 received, and we believe that we have successfully
6 incorporated all the comments of submissions into our
7 working documents.

8 The two documents address national plan and the
9 regional plan guidelines that we have been working have been
10 revised with some language changes, however, nothing of
11 significant note.

12 Our primary goal has been to keep the spirit of
13 the original plan and regional plan guidelines. The changes
14 that we have suggested are designed to make the regional
15 plan process more flexible. We will be drafting language
16 that will outline a process to allow the RPCs to modify the
17 plans to a degree without having to request formal approval
18 from the Commission. We believe that we can easily get
19 consensus on this issue.

20 I encourage all the participants in the NCC
21 process to think about this issue and forward

1 recommendations to any of the subcommittee members, my
2 subcommittee members.

3 We also believe that the sample bylaws and
4 district resolution process are complete and again I urge
5 the members of the NCC to come forward with any additional
6 comments or suggestions. If no more comments are received,
7 we will forward these two documents along with the draft
8 national plan and regional plan guidelines to the steering
9 committee at the September meetings.

10 We have prepared a first draft of the DTV
11 transition plan -- transition paper, which will be
12 incorporated in the interoperability subcommittee's final
13 report. It's distributed on the table. And there is a
14 change to the numbering, just to make it consistent with
15 everything else.

16 The new document number is IM-00022-2000602. And
17 our internal document is D0003. This was prepared by Dave
18 Eierman, and he did an excellent job on it.

19 A complete set of documents will be posted on the
20 list server by June 30th. The document will include all the
21 final versions of the sections, including funding,

1 technology uses and interoperability.

2 Of significant importance for this meeting was our
3 discussion on the use of a frequency availability presort to
4 assist the RPCs in developing their plans where regional
5 borders are involved. We have asked for comments on how
6 this process can be accomplished and we have suggested that
7 a presort use a 25 kilohertz building block concept that
8 will allow the RPCs to consider the various types of
9 technology that is or will be available in the future. The
10 RPCs will have to coordinate the various technologies and
11 bandwidths during the ongoing planning process.

12 This recommendation is consistent with our
13 philosophy of making the regional plans more successful -- I
14 mean, more flexible and more successful; and that's it.

15 MS. WALLMAN: Thank you very much.

16 Are there questions from the steering committee
17 for Lieutenant Dempsey?

18 (No response.)

19 MS. WALLMAN: Any from the floor?

20 (No response.)

21 MS. WALLMAN: All right. Thank you very much.

1 MR. DEMPSEY: You're welcome.

2 MS. WALLMAN: I thought that just in case we start
3 to lose people we should spend a minute on upcoming meeting
4 dates and locations before we go to the public discussion
5 section. I thought we could start that now. We may need to
6 interrupt it, depending on where we are when Ari Fitzgerald
7 arrives, but shall we do that? Shall we just do a check on
8 upcoming meeting dates and locations?

9 Bert, do you have the dates that we have sort of
10 agreed on so far that you can read out to us?

11 MR. WEINTRAUB: The only ones I have is for the
12 September 14th.

13 MS. WALLMAN: Right.

14 MR. WEINTRAUB: Fourteenth and 15th.

15 MS. WALLMAN: Right. That meeting is going to be
16 over at the Department of Commerce, right?

17 MR. WILHELM: Department of Commerce Auditorium,
18 Constitution and 14th.

19 MS. WALLMAN: And thank you to Don Spates who
20 helped us secure that location.

21 You know, in the normal course we would do a

1 meeting probably in November after that, which we could go
2 ahead and try to schedule now. I'd like to hear points of
3 view about that, whether we should go ahead and try to do
4 that just to have it on calendars or, you know, maybe we
5 will hear something significant from the FCC over the course
6 of the summer or the early fall. That probably wouldn't
7 change the desirability of having a meeting, so it might be
8 wise to go ahead and try to get a date on the calendar.

9 Are there points of view about whether we should
10 forge ahead with trying to pick a November date?

11 (No response.)

12 MS. WALLMAN: All right. Well, why don't we look
13 at November. Thanksgiving falls on the 23rd just as a
14 marker.

15 MR. MCEWEN: Either one of these weekends. The
16 IACP conference starts on the 10th.

17 MS. WALLMAN: Okay.

18 MR. MCEWEN: In San Diego.

19 MS. WALLMAN: IACP starts on the 10th, I'm told,
20 on the west coast, so one candidate would be the second --
21 no, third of November. Another candidate could be the 16th

1 and 17th of November.

2 Yes?

3 MR. AIKEN: Could we take just a second to get a
4 consensus of folks about continuing with Friday afternoon
5 general meetings?

6 MS. WALLMAN: Sure, we can open that up.

7 MR. AIKEN: With the idea that everybody is in
8 favor of that, we continue. But if there is any thought of
9 moving the general meeting back a day or whatever, so we can
10 avoid Friday afternoon airlines in Washington.

11 MS. WALLMAN: We can certainly have that
12 discussion. The original thought behind having a Friday
13 meeting was to help people justify a Saturday night stay so
14 they could get lower fares. But if it's turning out that
15 that's not really a factor for people, we could certainly
16 move it back. We all want to be mindful of the budgetary
17 constraints that a lot of people are operating under.

18 Are there points of view on that, about whether it
19 would be better to meet on a Wednesday and Thursday versus a
20 Thursday and Friday?

21 MR. MCEWEN: Well, I would rather see -- I think

1 there is enough time. I don't know. It depends on the
2 workload. Now, like yesterday, how long were you this
3 morning? I didn't get over for the subcommittee meeting.
4 What time did you finish?

5 THE AUDIENCE: About 11:00.

6 MR. MCEWEN: So it was about two hours.

7 MS. WALLMAN: Are you thinking maybe we could have
8 Thursdays for all three subcommittee meetings, and then jus
9 t do the NCC meeting on Friday morning?

10 MR. MCEWEN: That's -- yeah.

11 MS. WALLMAN: Would that be any better?

12 MR. MCEWEN: See, that would be my preference. I
13 would rather see them start early and run the three
14 committees and then start Friday morning and do your --
15 because then you are done with all that.

16 MS. WALLMAN: Dave?

17 MR. BUCHANAN: Just one comment on that. Dave
18 Buchanan.

19 It would work as long as we have a little time in
20 the morning in case we have something that spills over.
21 That's happened two or three times that I know of. So if

1 you start at say around 9:30, then it would probably work
2 fine, I mean, 9:30 - 10.

3 MS. WALLMAN: Right. What to try that?

4 MR. MCEWEN: Yeah, I would.

5 MS. WALLMAN: Okay, so the one possibility would
6 be to start -- if people have calendars that would reflect
7 association meetings or other probably generally shared
8 obligations, what is the 2nd and then part of the 3rd of
9 November look like? Anybody see any obstacles to that

10 (No response.)

11 MS. WALLMAN: Okay. All right, then why don't we
12 do that. So the subcommittees would start rather early, as
13 they already do, on November 2nd, take the whole day, and
14 then the NCC meeting would start at 9:30 on that day. And
15 then all we need is a room.

16 Can we find out whether the room is available on
17 that date?

18 MS. ALFORD: I inquired. They said they would
19 have to get back to us.

20 MS. WALLMAN: Okay.

21 MS. ALFORD: I just asked.

1 MS. WALLMAN: Do you have a sense of when they
2 might be able to tell us? I don't want to create a
3 hardship if they are already busy sort of helping us run
4 this meeting. But if we take a break and give them a break,
5 maybe we could find out.

6 MR. MCEWEN: When do you want to start the general
7 meeting?

8 MS. WALLMAN: Nine-thirty.

9 THE AUDIENCE: Nine-thirty.

10 MS. WALLMAN: Okay. Well, why don't we have that.
11 We can hold that tentative. I mean, we'll try to find out
12 before people have to bolt whether this meeting room is
13 available or we have to make other arrangements.

14 MS. ALFORD: After a 10-minute break, they'll let
15 you know.

16 MS. WALLMAN: I'm sorry. I didn't hear.

17 MS. ALFORD: After a 10-minute break, they can let
18 you know.

19 MS. WALLMAN: Okay. So we're at 12:20 now.

20 Why don't we do this? Why don't we take a 10-
21 minute break now in hopes of getting that answer. We'll

1 come back at 12:35 and we can start the public discussion,
2 which we may have to shelve when Ari arrives. My only hope
3 is we have got to give the production folks a break so they
4 can check the book and tell us whether the meeting room is
5 available. If there are people who have to leave early in
6 the afternoon, it would be better if they leave with that
7 information.

8 Okay, why don't we take a 10-minute break; back
9 here at 12:30, please, and we will have a few minutes at
10 least of public discussion before our presentations start.

11 (Whereupon, a recess was taken.)

12 MS. WALLMAN: All right. We have some information
13 about meeting dates that we're going to share.

14 First, on the September meeting, I'm asked to
15 remind people that are going to be up the street at the
16 Department of Commerce using their departmental auditorium
17 because this room is not available on the 14th and 15th.

18 MR. MCEWEN: Where is that again?

19 MS. WALLMAN: That's on 14th and Constitution.

20 MR. MCEWEN: Oh, same place?

21 MS. WALLMAN: No, I'm sorry. I'm talking about

1 the September meeting at the moment.

2 MR. MCEWEN: Oh, yeah.

3 MS. WALLMAN: That's on the 14th and 15th at the
4 Department of Commerce. Okay?

5 Now, in November, it turns out that this room is
6 not available on the 2nd and 3rd. It is available on the
7 1st and 2nd, which would be Wednesday and Thursday, instead
8 of Thursday and Friday.

9 MR. MCEWEN: What was that now?

10 MS. WALLMAN: We checked on the availability of
11 this room for the preferred dates of 2 and 3 November. It
12 was not available on the 3rd, but it is available on the 1st
13 and 2nd. So one thing we could do is slide it back and do
14 the meeting on Wednesday, and the first half of Thursday.

15 As an alternative, which I know already is not
16 convenient for at least one steering committee member, we
17 could do November 13th and 14th, which is a Monday and
18 Tuesday. And for people who are --

19 MR. MCEWEN: The IACP conference is going on. You
20 would rule out all the police chiefs.

21 MS. WALLMAN: All right. Then it sounds like the

1 alternative on the table is Wednesday, the 1st, and
2 Thursday, the 2nd.

3 What do you think?

4 MR. MCEWEN: And that's only because we can't meet
5 here in this room?

6 MS. WALLMAN: Right. Okay?

7 MR. MCEWEN: I'm going home and have my wife
8 absolutely furious with me because I'm planning a vacation
9 to come back on that date, so I'll go back and arrange it.

10 MS. WALLMAN: To come back on the --

11 MR. MCEWEN: First.

12 MS. WALLMAN: So come back on the 1st and just
13 join us for the general meeting on the 2nd. I don't want
14 Mrs. McEwen mad at me.

15 All right, so we are looking at the 1st and 2nd,
16 and so we do the subcommittee meetings on the 1st, and then
17 we start 9:30 on November 1st --

18 MR. MCEWEN: On the 2nd.

19 MS. WALLMAN: Sorry, November 2nd, and do the
20 general membership meeting hopefully in about half a day and
21 people could go home on early, mid afternoon flights on

1 Thursday, the 2nd.

2 Now, Ernie Hofmeister has suggested that if we're
3 going to try to do this all day Thursday, half of Friday
4 schedule that we might as well start that in September.

5 So the proposal there would be that we do
6 subcommittee meetings all day Thursday, September 14th, at
7 Department of Commerce, and then start at 9:30 on September
8 15th instead of in the afternoon as we otherwise would have
9 done. There is plenty of time to put out the appropriate
10 Federal Register notice and all on this. So we would try
11 this Thursday, half of Friday schedule beginning in
12 September. Okay?

13 All right, so just one more time as people are
14 filtering back into the room. The next meeting after this
15 one will be September 14th, a Thursday, at the Department of
16 Commerce Auditorium, 14th and Constitution. Subcommittee
17 meetings will meet all -- subcommittee meetings will be held
18 on that day. Then on Friday, September 15th at 9:30, also
19 at the Department of Commerce Auditorium, we'll have the
20 general membership meeting starting at 9:30 on Friday,
21 September 15th.

1 The next meeting after that will be in November
2 beginning on Wednesday, November 1st with subcommittee
3 meetings here at the FCC in this room. And then on
4 Thursday, November 2nd, the NCC would start at -- general
5 membership meeting would start at 9:30 and we would aim for
6 a midday finish on that meeting. Okay?

7 MR. MCEWEN: Is it reasonable, Michael, to say
8 12:30? Is there any time that we have to -- three hours
9 seems reasonable.

10 MR. WILHELM: I don't see why not, 9:30 to 12:30.

11 MS. WALLMAN: Okay, we will aim for a schedule
12 that lasts no longer than three hours.

13 MR. MCEWEN: That way people have a very specific
14 time to shoot for.

15 MS. WALLMAN: Right. All right, I think in the 20
16 minutes or so we have before our first presentation we might
17 open the public discussion and invite folks who have matters
18 that they would like to present to come to the microphone.

19 (No response.)

20 MS. WALLMAN: Any steering committee members have
21 a word or two to share? No?

1 (No response.)

2 MS. WALLMAN: Okay, well, then it looks like we
3 have time for a 20-minute break, and anyone who is worried
4 about not being able to get a bite before the presentations
5 today, you have a few minutes to do that.

6 (Whereupon, a recess was taken.)

7 MS. WALLMAN: Okay, we are ready to resume.

8 Mr. Fitzgerald joined the Commission from the
9 United States Justice Department's Office of Legal Counsel
10 where for three years he provided legal advice to the White
11 House counsel's office where I was the beneficiary of his
12 advice, and the general counsels of Executive Branch
13 agencies. He is a magna cum laude graduate of Harvard
14 College, and he served in 1984 and 1985 as a Henry Lew
15 Scholar on Asia. He's a graduate of the Yale Law School,
16 1990.

17 He had a wide breadth of experience, having worked
18 for two years prior to law school at the investment bank,
19 First Boston; having clerked for the famous federal judge,
20 Lee Sarakan, and has served two and a half years as legal
21 counsel to Senator Bradley, and worked for a year in the

1 Washington, D.C. office of the New York law firm Sullivan
2 and Cromwell.

3 We are very glad to have Ari here. He has been a
4 big supporter of the work that we have been doing here and
5 very grateful to have him for a few minutes on a very busy
6 day for some comments on what we have been doing here.

7 Thank you.

8 MR. FITZGERALD: Thank you, Kathy.

9 First of all, I want to thank Kathy publicly in
10 front of everyone for the great job she has been doing
11 chairing this committee. Chairman Kennard thought very hard
12 about who he would ask to serve, and I think it took some
13 convincing to get her to do it. He wanted to -- she wanted
14 to make sure that she had the resources to do a thorough job
15 here. He finally was able to convince her to do it, and we
16 all know and believe that she's done an excellent job and
17 will continue to do an excellent job as Chair.

18 On behalf of Chairman Kennard, I want to thank you
19 for the work that you have been doing. We all know that you
20 have day jobs and that this is a -- this task, you're really
21 sort of doing this on behalf of the American public, and

1 your cramming in this work along with the other work that
2 you are doing when you are not here in Washington, and we
3 know that there is a lot of sacrifice involved with that,
4 and we want to let you know how much we appreciate that.

5 I know that you are very interested in a couple of
6 items that are pending before the Commission, so I want to
7 talk to you a little bit about how we're going to deal with
8 those items, the schedule and what we hope will -- what we
9 hope we are going to be able to do over the next couple of
10 months.

11 I want to first talk about the NCC report that was
12 submitted earlier this year, in late February.

13 The Commission staff has reviewed that report and
14 drafted a notice of proposed rulemaking, seeking comment on
15 various aspects of the report. In many cases the Commission
16 was able to cull from the report recommendations and factor
17 those into the proposals that they have submitted.

18 And you will notice when the item comes out, you
19 will notice that there will be -- you know, it's a draft --
20 it's in draft form right now, but I suspect that the item
21 that will emerge from the Commission will have tentative

1 conclusions on a number of issues that you have raised in
2 your report.

3 Our office has reviewed the item and has given
4 approval for its circulation, and we have actually voted it,
5 and Chairman Kennard is urging his fellow -- is fellow
6 commissioners to do the same so that we can initiate this
7 proceeding, get the comments in, digest those comments and
8 have final rules, where necessary, in place very quickly so
9 that we can move ahead and get this spectrum in use.

10 (Applause.)

11 MR. FITZGERALD: There is another item that you
12 also are interested in, I believe. It's the recon of the
13 public safety service rules, the service rules that we
14 promulgated for the 24 megahertz spectrum. That item has
15 also been submitted to our office. I have read it, and
16 reviewed it, and the Chairman has voted that item as well
17 and is urging his colleagues to get that one out as well.

18 Again, we think that it's important. In order for
19 us to actually move forward so that we will be -- so that
20 you will be able to use the 24 megahertz spectrum we need to
21 move as quickly as possible, and I believe that for the most

1 part the commissioners share the same sense of urgency that
2 the Chairman has as it relates to public safety spectrum.

3 You have done a very good job of educating the
4 Commission about how important it is that you have access to
5 the spectrum. And so I suspect that the people I've talked
6 to, at least their legal advisors, are all aware of the need
7 to move quickly on these matters. So I suspect that they
8 will move quickly on that item as well.

9 There is a third item, and for a lot of you, you
10 know, who aren't familiar with the Commission's processes
11 you may wonder why we use terms like "memorandum opinion and
12 order" and "third report." I myself often wonder why we
13 have to use such high-faluting terms to sort of describe
14 these things.

15 There is another item that hasn't come to our
16 office yet but I've been told will be in our office within
17 the next couple of days. It's going to have this title,
18 "Third Memorandum Opinion and Order" and "Third Report and
19 Order." And the issues that it's going to tackle relate to
20 the interoperability below 512 megahertz, and the potential
21 interference to global positioning satellites from the 700

1 megahertz public safety operations.

2 This item will be in our office, I'm told, today
3 or early next week, and we will review that item. And since
4 I only have a week left, I'm going to try to review it so
5 that Clint doesn't have to look at it. He will have to read
6 it at some point, I'm sure, but we will try to get that on
7 circulation as well.

8 So there will be three items on circulation
9 dealing with public safety. We will call them the "Troika
10 for Public Safety," and we will push very hard to get those
11 voted as quickly as possible.

12 As some of you know, I am going to be leaving the
13 Chairman's office next week, and I'm somewhat -- you know,
14 I'm very happy that I'm going to continue to work here at
15 the FCC and I'm excited about the new position, but I'm also
16 sort of somewhat -- there is a little bit of sadness in sort
17 of leaving the position that I'm currently in. I've had the
18 fortune to work with some very, very dynamic people both in
19 the sort of commercial -- on the commercial side in the
20 wireless industry, but on the public safety side, and, you
21 know, I'm going to miss, you know, working with the people

1 who come in and taught me a great deal about the importance
2 of public safety and the importance of making sure that a
3 spectrum is available to serve public safety needs.

4 Clint Odom is going to be replacing me. Clint is,
5 Clint, could you stand for a second? He is currently a
6 senior legal advisor to Deborah Latham, the head of the
7 Cable Bureau. Clint did a stint in the Wireless Bureau
8 before going to cable, and so he probably knows much more
9 about what wireless than I knew when I -- before I came to
10 the Chairman's office.

11 And if you afford Clint the same courtesies and
12 kindness that you have afforded me, just a fraction of the
13 kindness, I'm sure he will be well taken care of. Please be
14 good to him. He's going to do a really good job for the
15 Chairman, and I think you will find that he will continue to
16 represent your interests very well here at the Commission.

17 Thanks a lot. I'll be happy to take any
18 questions, specific questions on these items, and answer
19 those that I can answer about, you know, what's in the items
20 and the schedule for getting things done. We do have -- you
21 know, we are governed by the APA and there are some issues

1 that I can't -- you know, certain things that I can't
2 disclose about items that are pending before the
3 Commissions, but I can talk to you about timing. I can't
4 talk to you about issues that are raised in these items, and
5 again, I can give you a sense of, you know, when I think we
6 will be able to get these things resolved.

7 Thanks.

8 MS. WALLMAN: I want to thank you very much for
9 all the progress that you have accomplished on the three
10 items. It's very gratifying to hear about the progress and
11 thank you very much for all that you have done. And I know
12 the Bureau has put on a big push. I see Kathleen and others
13 from the Bureau here, Dwana Terry is here. Thank you very
14 much for the big push that you put on to be able to deliver
15 this very encouraging news about progress today. Thank you.

16 MR. FITZGERALD: Yes, there are a lot of people
17 that deserve much more credit than people in the Chairman's
18 office for getting this done. Michael Wilhelm, you know,
19 your DFO, has done an amazing job making sure that we are
20 aware of, you know, your recommendations and the process
21 that you have gone through to come up with those

1 recommendations.

2 Dwana Terry has shepherded this process extremely
3 well, and is a constant sort of reminder -- you know, a
4 constant voice or advocate for public safety at the
5 Commission.

6 And Kathleen Hamm has done an amazing job making
7 sure that we keep the eye on the prize, so to speak, and
8 make sure that we continue to keep public safety a number
9 one priority here.

10 I think you will find that -- I don't know. I
11 haven't been at the Commission for a long period of time,
12 but the sense that I get from talking to the legal advisors
13 and the commissioners is that there is not one commissioner
14 that doesn't feel public safety is a major priority here at
15 the Commission. I usually don't have any trouble getting
16 public safety times resolved quickly at the Commission
17 because there usually would be at least one other legal
18 advisor who will be pushing along with me to make sure that
19 the legal advisors focus on those items and vote them out.

20 So whatever you have done you've done it really
21 well and you should definite continue to do it.

1 MS. WALLMAN: Are there questions for Mr.
2 Fitzgerald? Dave Buchanan?

3 MR. BUCHANAN: Dave Buchanan with Count of San
4 Bernadino in southern California.

5 I was just curious if you're looking at resolving
6 how the reserve channels are going to be allocated, the
7 reason for that is is the majority of the wideband data,
8 which there is a great demand in southern California for are
9 tied up in the reserve channels. However they are going to
10 be handled for planning and so that we can get them
11 licensed, it would be nice to get that over with.

12 MR. FITZGERALD: Yeah, we are going to have to
13 resolve those at some point. The items will -- one item in
14 particular will, you know, discuss how we plan on dealing
15 with the reserve channels, but we are not -- you know, I
16 think we want to wait to see what happens with the -- the
17 reserve is what, 8.8 megahertz of spectrum, I believe?

18 MR. BUCHANAN: Yeah, it's something like that.

19 MR. FITZGERALD: We want to wait and have some
20 experience with the channels that we haven't put in reserve,
21 see how that goes. A lot of -- you know, a lot will depend

1 on, you know, agencies such as your agency sort of telling
2 us what they think the demands and the needs are going to be
3 in the future.

4 A lot of our sort of -- a lot of -- the way we are
5 going to -- our sort of perspective on what to do with the
6 reserve channels is going to have a lot do with what we
7 hear from public safety, local public safety about what the
8 demands are going to be in the future, and it may be that
9 jurisdictions such as yours may have a demand that the
10 smaller jurisdictions might not have, but that's something
11 we will definitely have to, you know, deal with.

12 MR. BUCHANAN: I just make a comment then. One is
13 it's really hard on a regional level to plan everything when
14 some of those are up in the air as to how they are going to
15 be planned.

16 Number two is we have started the regional
17 planning process in southern California and we have already
18 asked for agencies to submit their requirements. The
19 requirements for the wideband data is the one that is just,
20 far exceeds the availability of the channels.

21 One agency, L.A. City, has already asked for more

1 channels than what there are in the allocation for wideband
2 data. So there is no way that we are going to be able to
3 satisfy the demand even if we had all the reserve channels.

4 MR. FITZGERALD: Do you think this is an issue, do
5 you expect that this will be an issue that will impact the
6 larger jurisdictions first, or do you think this is an issue
7 that, you know, all jurisdictions are going to ultimately
8 have to sort of --

9 MR. BUCHANAN: Well, the trend seems to be that
10 the larger jurisdictions will put in their own system, but
11 even the smaller jurisdictions are getting together and
12 putting in regional mobile data systems. So even if they
13 are smaller, they will join somebody bigger or form their
14 own joint powers arrangement to do something, and I think
15 that trend is going to continue to happen.

16 So it's going to affect, obviously, always the
17 large institution implements the quickest, but it's not
18 going to be far behind for the others.

19 MR. FITZGERALD: Are you looking for an allocation
20 that would support more sort of wideband data applications?
21 Is that what you -- if you had your wish, let's say sort of

1 your wish for what the allocation would look like.

2 MR. BUCHANAN: If we had another -- well, even
3 within the 700 meg band, if we just had the option to know
4 how we're going to plan the reserve spectrum, because if
5 you look at the reserve spectrum there are more wideband
6 data channels there than there are in the general use, which
7 we can plan through the regional planning effort.

8 But beyond that, yeah, we're looking for data.
9 Everyone is demanding more data. More spectrum in that area
10 would help us.

11 MR. FITZGERALD: Okay, thanks.

12 MS. WALLMAN: Bob Gurss?

13 MR. GURSS: Yes, thanks.

14 I just wanted to add my -- I didn't think you were
15 this tall, Dave -- add my thanks to Ari, someone who
16 frequently has met with Ari and his colleagues on behalf of
17 APCO and other public safety groups. It has been a pleasure
18 working with you. We are going to miss you in that regard.

19 We look forward to working with Clint, and wish you the
20 best.

21 MR. FITZGERALD: Thank you. I like that because

1 that's an easy. There are no answers there.

2 (Laughter.)

3 MR. FITZGERALD: Thank you, Bob. I appreciate
4 that.

5 THE AUDIENCE: Look out for this one.

6 MR. SCHLIEMAN: Robert Schlieman, New York State.

7 I think you are probably right, some of the paper
8 out of our state recently. We're a little concerned that
9 the frequency plan that we have become aware of, let's put
10 it that way, and the Canadian DTV issue is not
11 representative of the mandate from Congress for 24 megahertz
12 for public safety, and in fact, at least in the edition that
13 we say, it excluded public safety and other land-mobile
14 entities from any standing with regard to inference issues,
15 including the whole TV band, not just 700 megahertz, which
16 we are interested in.

17 And I'm just curious how the Commission looks at
18 that when they have a congressional mandate to make spectrum
19 available to public safety.

20 MR. FITZGERALD: I think Bruce Franca is going to
21 end up -- he's going to be here. I think he's giving a

1 presentation on that issue, or at least as part of that
2 presentation. He's the person who has been working on the
3 DTV sort of public safety interference issues. He will
4 probably -- he's probably in a better position than I am to
5 address that issue.

6 I can just tell you though that just as a general
7 matter the Commission has taken very seriously the mandate,
8 the statutory mandate that emanated from Congress relating
9 to the public safety spectrum.

10 We know that we have to take steps to ensure that
11 public safety operations can occur on the 24 megahertz. We
12 have to take steps to protect the integrity of those
13 operations, and most recently we took that mandate into
14 account in establishing guard bands in the 700 megahertz
15 between public safety and commercial operations to make sure
16 that public safety would be adequately protected.

17 And we will continue to do what we need to from a
18 technical standpoint to make sure that the integrity of the
19 public safety operations will not be -- will not be
20 disturbed.

21 DTV is a -- you know, has been a very complicated

1 process. We also, you know, in the 700 megahertz proceeding
2 we also had to fashion TV land-mobile interference criteria,
3 criteria that would protect TV operations and also allow
4 land-mobile operations to exist, gets into fairly technical
5 issues which could -- luckily as a non-engineer, I don't
6 have to sort of take first crack at.

7 But, you know, just at a very, very general level,
8 you know, I want to commit to you that, you know, whenever
9 we engage in these technical discussions, and whenever the
10 commissioner, you know, end up reviewing recommendations
11 coming out of our engineers on these issues, I think, you
12 know, they are very, very aware of the congressional
13 mandates that have come down as it relates to the spectrum,
14 and are very interested in making sure that you will be able
15 to use it for the applications that you need to use it.

16 MR. SCHLIEMAN: I didn't hear you say anything
17 about border areas, and that's really what our chief concern
18 is because the border impact, particularly for New York
19 state, is very significant as the Canadian plan is at the
20 present time. And we think that problem is resolvable,
21 obviously requires effort on the part of Canada to resolve

1 it.

2 But it just leaves me a little surprised that a
3 letter of understanding would be considered that did not
4 encompass the U.S. congressional mandate for the public
5 safety band in that letter of understanding.

6 I haven't seen a recent version of it. The one
7 that I have seen is dated November 15 and it came from
8 Canada. Let there be no mistake that nobody leaked it out
9 of the Commission.

10 MR. FITZGERALD: Right. Our goal is to make sure
11 that public safety in the U.S. is protected. You know, that
12 the public safety is affected in the -- public safety
13 operation in the U.S. is affected by Canadian DTV broadcast
14 in the same way that they would be affected in the U.S.

15 So what we are trying to do is sort of get
16 internationalized the standards that we have put in place
17 domestically here. You know, if you are suggesting that the
18 standards that we have put in place to cover DTV, public
19 safety issues, interference issues here in the U.S. aren't
20 strong, I'd like to hear about that.

21 If you are saying that the negotiations thus far

1 have not covered -- have not included some of the
2 protections that we have imposed domestically, I'd like to
3 hear about that also.

4 I think Bruce probably will be the best person to
5 talk to you about that.

6 MR. SCHLIEMAN: Okay.

7 MR. FITZGERALD: But is your concern that --

8 MR. SCHLIEMAN: My concern is that their plan
9 needs to be modified in the language in the LOU that I have
10 seen needs to be changed --

11 MR. FITZGERALD: Yeah.

12 MR. SCHLIEMAN: -- with respect to public safety
13 having no standing.

14 MR. FITZGERALD: Yeah. The November proposal, I
15 think, there were a couple of -- that isn't the only flaw in
16 their proposal.

17 MR. SCHLIEMAN: I'm sure.

18 MR. FITZGERALD: But I think Bruce would be a
19 better person to talk to you about the specifics. But I
20 think there has been a lot of negotiations since November,
21 and it may be that the thing that needs to be done at this

1 point is to make sure that the public safety community is
2 briefed on where the discussions -- how the discussions have
3 progressed since November.

4 MR. SCHLIEMAN: Well, that would be good. It
5 would also be really nice if we had access to what the
6 current letter of understanding is because, frankly, the
7 ramifications of this are very significant, and I don't
8 understand why it must be conducted in secret.

9 MR. FITZGERALD: Well, the negotiations have to be
10 conducted among the parties, but there is no reason why
11 public safety organizations should not know what's going on,
12 how the negotiations are proceeding, nor is there a reason
13 why public safety shouldn't be given status reports. And I
14 would look to the -- you know, these negotiations are being
15 conducted out of the International Bureau, formerly --
16 well, the State Department is actually leading the
17 negotiations. The International Bureau is assisting in the
18 negotiations, and the Wireless Bureau has been involved from
19 the public safety -- wireless and OET have been involved.

20 So there is absolutely no reason why public safety
21 shouldn't know the status of the discussions, especially as

1 they relate to, you know, the interests of public safety.
2 So I think Bruce will be able to sort of give you an update.

3 If you don't feel that you have been satisfied --
4 if you don't feel that you have been given sufficient
5 information on the status of the discussions, please let me
6 know.

7 MR. SCHLIEMAN: Thank you.

8 MR. FITZGERALD: Okay, thanks. Or let Clint know.

9 MS. WALLMAN: I think we have time for maybe one
10 more quick one. Glen?

11 MR. NASH: Ari, Glen Nash representing APCO as the
12 first vice president.

13 We are encouraged by the, you know, the
14 suggestions, you know, that the recommendations of the
15 committee are going to be coming out in an NPRM, but we are
16 also concerned about the length of such a process.

17 Can you give us any sort of idea as to when you
18 expect an actual, you know, final opinion from the
19 Commission relative to the standards?

20 And what we keep hearing from the manufacturers is
21 that they are unable to unwilling to move forward with

1 development of product --

2 MR. FITZGERALD: Within final --

3 MR. NASH: -- of the 700 megahertz band --

4 MR. FITZGERALD: Yeah.

5 MR. NASH: -- without the establishment of some
6 standards.

7 MR. FITZGERALD: Yeah. And they are telling you
8 the truth. I mean, I've heard this from manufacturers as it
9 relates to other proceedings.

10 Our office will be advocating a fairly short comment
11 cycle. And for those of you who don't know too much about
12 the Commission's process, you know, this may be a little bit
13 arcane, we're going to be proposing that people have 30 days
14 from the issuance of the notice to file comments, and then
15 15 days to file replies.

16 Let's assume that we get this out in June, you
17 know, let's assume we get this out three weeks from now or
18 within the next three weeks, that would basically mean that
19 all of the comments, the formal comments would be in by, you
20 know, mid to late summer, and the Bureau is going to need
21 some time to digest those comments, but this is a priority

1 and we will be pushing them to try to get something out.

2 You know, Dwana is probably going to be very mad
3 at me if I give specific dates. All I can say is that I
4 think early fall, early fall, Dwana, but how you define fall
5 is reasonable. And so that's what we are pushing for. We
6 are trying to give them the time they need to digest the
7 comments, but on a fairly -- you know, on a fairly
8 aggressive track.

9 And I want to sort of talk a little bit about why
10 we think we can do that. We know that the process that you
11 went through to develop recommendations was a public
12 process. No one was barred from the process. People were
13 able to say what they wanted to say. You deliberated quite
14 a bit. We feel very confident that the people who were
15 involved in this process are experts. We can trust them as
16 it relates to, you know, the impact, or we can trust them as
17 it relates to the recommendations that they are making, that
18 they are working in the interest of the American public,
19 which is always a good thing.

20 So we don't -- you know, obviously we will have to
21 -- we will receive comments. They will be differing and

1 diverging views on some of your recommendations. But I
2 think when we review those recommendations we will be
3 reviewing them against the back drop of a knowledge that a
4 lot of time and effort was put into developing the
5 recommendations, and there has been a certain amount of
6 consensus developed as it relates to a large number of the
7 recommendations. I think that will help us help move the
8 ball forward quite a bit.

9 And so I don't think that, you know, this will be
10 a typical -- the time line that is being put together to
11 move this proceeding along is going to be typical. I think
12 we are going to be able to move faster because you have
13 given us such a great amount of information. You know, you
14 spent so much time and put so much work into the development
15 of the recommendations that it's not -- you know, we will be
16 able to move much faster here than we would have if we were
17 starting from scratch, as we typically do with an NPRM.

18 MR. NASH: All right, thank you.

19 And I certainly would argue for early fall.

20 (Laughter.)

21 MS. WALLMAN: Thank you very much.

1 MR. FITZGERALD: Thanks a lot.

2 MS. WALLMAN: Thank you for all you have done and
3 best wishes in your new position.

4 MR. FITZGERALD: Thank you very much.

5 (Applause.)

6 MS. WALLMAN: Dr. Charles Jackson who will speak
7 to us right now about software defined radios has an
8 impressive set of credentials.

9 He holds a Bachelor of Arts Degree with honors
10 from Harvard in applied mathematics. He also holds a Master
11 of Science and Doctor of Philosophy degrees in electrical
12 engineering from the Massachusetts Institute of Technology.
13 These are not honorary degrees, I take it. You paid your
14 dues.

15 MR. JACKSON: I paid more than dues.

16 MS. WALLMAN: Chuck Jackson came to the FCC in
17 1975 as the engineering assistant to then Commissioner
18 Robinson. He then became a special assistant to the chief
19 of the Common Carrier Bureau for technological issues and
20 land-mobile policy. From the Commission, Dr. Jackson went
21 to the Hill as a staff engineer for the House Communications

1 Subcommittee.

2 He left government service in 1980 to become a
3 principal of the consulting firm of Schuson and Jackson,
4 which later merged into NERA, National Economic Research
5 Associates. There as vice president he provided public
6 policy and telecom consulting services to the telecom
7 industry, and this practice was later merged into Strategic
8 Policy Research -- Strategic Policy Research, Incorporated
9 where he remained until 1997.

10 Today Dr. Jackson is an independent telecom
11 consultant with a wealth of experience in the field. He has
12 written numerous studies on public policy matters, and has
13 also written for a number of professional journals and for
14 the general press. He is an acknowledged expert in the
15 telecom field as evidenced by his experience as a litigation
16 expert witness and is an authority who has testified before
17 Congress on technology and telecom policy issues.

18 He is also, like many of you, a volunteer in
19 various fields. He is a member of the Department of
20 Commerce Spectrum Planning and Policy Advisory Committee,
21 and he sits on the FCC's Technological Advisory Commission.

1 I could go on at some length about his additional
2 achievements in the field, but I think we should cut to the
3 chase and hear from Dr. Jackson. Thank you.

4 MR. JACKSON: Is this microphone working? What do
5 we have to do to get the -- all right. Great, it's working.

6 The hardest part of the whole talk is over the AV system is
7 actually working for me. I won't go into my life experience
8 with this.

9 But anyway, I think many of you know me from
10 before, and what I'm going to try to do today, Mike asked me
11 to talk about software defined radios. The working group
12 that I have been chairing in the technology advisory
13 committee for the FCC had done a review of this area. I
14 don't have any specific interest or position one way or the
15 other, but I'm going to provide an overview if this area.
16 If I say something that's wrong and you think it's mildly
17 wrong, wait till the end and then asking an embarrassing
18 question. If you think it's really bad, stand up and wave
19 your hand, and scream or something like that and we can get
20 me straightened out there. I don't claim to be an expert in
21 this area.

1 The basic idea though of software defined radios
2 is pretty simple, and the question is -- I mean, I look
3 around this room and I can see most of us graduated from
4 college a few years ago, but what do engineers do when they
5 graduate from college today? What do electrical engineers
6 do? And do they solder? Do they work with wires?

7 No, they write C code, and it doesn't matter what
8 your specialty is that's what you end up doing. And if you
9 build radios, if 90 percent of the intellectual value in the
10 radio is in C code, then all you do is you change the C code
11 to change how the radio works.

12 And so you have one program, you've got an FM
13 radio. Different program, it's a TDMA radio. Everything is
14 the same. You change the program. Still another program,
15 it's a CDMA radio. Big complicated program, it's all three,
16 and that's, you know, three-quarters of the concept of
17 software defined radios.

18 Now, there is a very interesting project. It's
19 name was too long for me to type. It's called, I think, a
20 joint tactical radio system where DOD is looking at their
21 next generation of radios, and I'm not sure of the exact

1 history here but of the -- the projects that came before
2 this and this project have, I think, been big motivators for
3 the development of the concept of software defined radios.
4 The Joint Tactical Radio System is also going to have an
5 open architecture, or so they say. They will be able to
6 have multiple hardware vendors. Buy the software from one
7 person, run it on various versions of the hardware; get
8 software reuse. So when they buy a demodulator for system
9 X, they will be able to move that between platforms. They
10 get a new aircraft in with new radio gear in it. Well, they
11 can reuse the old software instead of having the radio
12 rebuilt from scratch. I'll come back to this in a minute.

13 Another way to look at a software radio is to
14 actually look at the hardware of a software radio, and this
15 is sort of a general schematic. We have some front-end
16 filters, frequency conversion, A to D and D to A. The signal
17 from this point on out to the antenna is analog. It's going
18 this direction. It's converted to digital, or come in
19 digital in this direction and it's converted to analog and
20 goes on out.

21 So you do some kind of analog to digital

1 conversion, maybe even at the radio frequency itself, maybe
2 you do it at some IF. It's then demodulated, goes to some
3 kind of display device which could be a screen or a
4 loudspeaker, same way you've got some kind of input. And
5 all your software processing is done in these two parts.

6 Now, this is not really a very radical
7 architecture. Here is a diagram I got from some hardware
8 manufacturers -- I think it was Rockwell -- of how a modern
9 telephone line modem is designed, and you basically have the
10 telephone line come in. You do an A to D conversion, and
11 then you take those numbers and do all your processing and
12 send it off to the computer.

13 Similarly, here is a piece of Texas Instrument
14 sales literature for a TDMA base station, and all these
15 little blue boxes are boxes or chips that you can buy from
16 TI, and this is their view of how to build a base
17 transceiver station, a base station for a TDMA wireless
18 system. You do your modulation. You encode your symbols,
19 modulate them, do various filtering and then you have a base
20 band interface, digital to analog conversion, some up
21 conversion, power amplifier and it goes to the antenna.

1 So the RF side is pretty straightforward. It's
2 just frequency conversion and power amplification and
3 filtering. Just -- we'll get to that. But this is a TI
4 sales literature.

5 Here is a -- this os from the Qualcomm literature.

6 I got it off their web site and it's a little harder to see
7 but this is a device they sell called an MSM, which is the
8 heart of a CDMA mobile unit, and they have a little
9 processor in here that does the FM processing, another one
10 that does CDMA, and the in-phase and quadature data go out.

11 They are A to D converted, up converted and there is an
12 amplifier. So again, it's a very similar type of
13 architecture. And if you wanted to change the coder, you
14 change some of the code here. If you change the CDMA
15 modulation to, you know 256 chips instead of 128 chips per
16 bit, you would change some processing in here. It's
17 probably all written in C and 98 percent of the intellectual
18 property in a hand-held rides in that one chip.

19 The origin, the term "software defined radio" is
20 credited to Dr. Mitola of Mitre. I think the fundamental
21 architecture where you have some kind of A to D conversion,

1 maybe at base band, maybe at IF, maybe even at RF, and then
2 do all the signal processing in digital has been a round for
3 a long time. At least -- I mean, I was aware of systems
4 that did this in the early seventies, but they were always
5 for, you know, vehicles that could travel at high speed,
6 several hundred feet under the water or in aircraft or outer
7 space, people like that.

8 And clearly as chips get better and better, we
9 would expect more and more processing to be done this way.
10 It makes sense.

11 Here is a slide from the Joint Tactical Radio
12 System and their vision, and the DOD has lots of specialized
13 communication systems, some of them with either specialized
14 message formats or unusual modulation formats, wide range of
15 frequencies, and one of the things that JTRS is trying to do
16 is come up with a few hardware designs that can support a
17 wide range of legacy systems.

18 The only difference between one legacy system and
19 another being which software will you invoke, and gee, I
20 don't know -- does anybody know where they are in that
21 program? I think they have -- they're in the second stage

1 of procurement or something like that. It seems to be
2 moving along fairly well from what i can tell.

3 There are a lot of references to software defined
4 radios. One of the best places to start is something called
5 an SDRF forum, Software Defined Radio Forum. Many of the
6 participants in that are contractors or would be contractors
7 to the DOD effort. The Joint Tactical Radio System has a
8 web site. The FCC has a notice of inquiry -- I'll talk a
9 little bit more about that in a minute -- on software
10 defined radios. It's a thoughtful notice of inquiry,
11 provides some good background. And if you can accurately
12 transcript that whole URL, you can go to it, or you can just
13 go to the OET web site and you can find it.

14 If you go to my web site, I keep -- there is a
15 subdirectory on there for the technology advisory committee
16 and there is a report that the working group did, primarily
17 Kelly Constant from ITRI, on SDR, which might be
18 interesting.

19 Another thing just to give some perspective is
20 something on vision, how big a deal is software defined
21 radios? Well, there are lots of articles in professional

1 journals. DOD is in the process of implementing it. It's
2 very important. A lot of discussion in the industry. FCC
3 has got its notice of inquiry.

4 I went out and did a search on Alta Vista; got 403
5 hits on the phrase "software defined radio." I did a search
6 on PSWAC, a term any of you will recognize. I only got 111
7 hits. So it's four times better than PSWAC.

8 (Laughter.)

9 But I also did a search on John Powell and I got
10 8,000 hits.

11 (Laughter.)

12 So it's 140 -- I'm sorry -- it's one-twentieth of
13 a John Powell.

14 (Laughter.)

15 Now, this is a quote I took from a proponent's
16 view of software defined radios, and, you know, you look at
17 it, United world, a diverse standards technology and
18 frequency bands. If all that defines the radio is the
19 software in it, well, you load in different software. You
20 get a different radio. So you can imagine you've got a
21 portable with you and you travel into an area where the

1 authority, whether it's your cellular contractor or maybe a
2 regional public safety agency is using a different standard,
3 your mobile registers according to some kind of global
4 registration process and it negotiates with the base
5 station, found it can't communicate.

6 Well, then it downloads the right software and it
7 communicates. It's sort of like when you are browsing the
8 web and your explorer, you know, says it doesn't have that
9 font. Do you want me to download it from Microsoft and try
10 to download and then something goes wrong with the software.

11 But there are also skeptics about software defined
12 radios. There is mixed points of view. One skeptic who
13 spoke up, I think, at our last TAC meeting and is fairly
14 well known in the industry is Dr. Arthur Ross, and he
15 characterized the proponents as well intentioned but
16 misguided, and that there are real limitations in device
17 physics. It's hard to build an antenna that works at both
18 HF and two gigahertz. And if anybody who has one that fits
19 in your pocket and works well, I would like to talk to them
20 afterwards.

21 I think it's very, very hard to do some of these

1 things. There is more required than just programmability,
2 and if you -- well, I won't get into that, DOD.

3 And then he has this thing, you know, saying that
4 if you assume you had perpetual motion machines, you could
5 market them very well but first you've got to build them.

6 Similarly, we had a submission in the TAC process
7 by Lucent, which was quite skeptical and suggested problems
8 like you've got these A to D converters out there. Well, if
9 you've got wide dynamic range, a strong adjacent channel
10 interfering signal and a weak signal, then only the low
11 order bits of the A to D conversion are going to be picking
12 up that weak signal. And so if you are going to do some
13 kind of digital filtering to get rid of that strong
14 interfering signal, you have got to have an enormous dynamic
15 range on the A to D converter. If you are doing A to D
16 conversion at a high frequency, let's say 700 megahertz,
17 you've got to be trunking those conversions really fast, and
18 you can't really build an A to D converter that's both very
19 high precision and works at those frequencies yet.

20 Now, if you are trying to build a radio that works
21 in HF band or maybe even a 200 megahertz and you've got some

1 IF conversion in there, it's quite a different situation.

2 Now, we can contrast. Okay, we said Lucent -- I
3 pointed out Lucent is critical of the concept. Those are
4 the researchers at Lucent.

5 You look at the marketing people, they say they
6 are already doing it., and I don't know whether that says
7 that just the marketing people are way ahead of the
8 engineers or it says when you get a buzz word out there the
9 marketing people tack it onto the product whether or not
10 it's really relevant.

11 But it does, I think it does show that people like
12 Lucent and others are going to be out there saying we've got
13 that stuff even if what they have got isn't quite what other
14 people are talking about.

15 There are some regulatory concerns with this
16 technology and the first sort of fundamental one, how do you
17 make sure the equipment meets the rules. Right now you test
18 it, the FCC or the manufacturer, some kind of -- the
19 authority in different countries, or some certification
20 authority takes the radio, tests it and knows that it works
21 according to the rules.

1 Well, if you change the software, you change what
2 the radio does, and how do you know that it still meets the
3 rules?

4 If I go back to that Qualcomm chip I showed several
5 slides ago and I change that chip so that it transmits 256
6 signaling elements instead of 128 for each bit that it
7 transmits, well, it's going to have a really different
8 spectrum. It's going to have different out-of-band emission
9 characteristics. So you need some way to make sure it meets
10 the rules.

11 How do you prevent people from having illegal
12 upgrades?

13 I was negotiating to buy a car recently, be
14 careful how I phrase this because I know it's being
15 recorded, and the person who was trying to sell it to me
16 said, now, there is a chip in the engine, so you get a
17 little bit better acceleration, and then he was showing me
18 the CV radio and he said, now, if you throw this switch up
19 to here, you get 50 watts instead of four.

20 And you can imagine the same sort of thing
21 happening. People say, well, you want a little better talk

1 back range on your portable? Just buy our chip. Access pow
2 er, out-of-band energy, all kinds of concerns, the specific
3 absorption rate the safety issue.

4 Another concern is how do you get the maximum
5 benefits. If this is a new important technology and the
6 rules are restricting its use, how do you put rules in place
7 that allow you to get the benefits?

8 FCC had a notice, they have some questions about
9 the state of the art, what's it like, good questions about
10 state of the art, I'll just bring the up here, what's
11 happening internationally. They asked about
12 interoperability and here they specifically ask, "Can
13 software defined radio improve public safety
14 interoperability?"

15 I'm not sure, and here is where, I guess, I will
16 venture an opinion instead of just a review, I'm not sure we
17 know enough yet to answer that question. I suspect that may
18 be a little premature, but there is -- obviously there is a
19 lot of concern or interest in how this technology can
20 facilitate interoperability in a host of situations, not
21 just public safety, different services. Would software

1 defined radios move towards uniformity in standard.

2 After all, if all your radios are software
3 defined, you can just have one big software upgrade and they
4 are all running in the same version, and you don't have
5 those weird hard to change old systems, but we know that the
6 systems in the field last for long time.

7 And similarly, in the reforming context, you could
8 imagine that maybe SDR could help with that in various
9 areas.

10 They have some questions about equipment
11 authorization, the measurement rules appropriate. I will
12 offer my own forecast. Now I'm stepping a little bit out
13 here. I think it's very clear cut that this is a technology
14 that's very important for the military. I think it will
15 creep into commercial products in various fashion. We
16 already have multistandard radios though. You can buy, I
17 guess Motorola sells an Idem phone that's also a GSM phone
18 and works around the world, works in GSM networks outside
19 the U.S. There are lots of radios you can buy today that
20 work on both analog amps and one of the digital standards.

21 Multiband is a little bit harder because again I

1 mentioned the problem of antennas and, you know, we do have
2 multiband radios that work at 800 and the PCS frequencies.
3 And I think the benefits in military systems are very clear.
4 If you think about -- if you can save a few pounds in the
5 weight in an aircraft, it's worth an enormous amount when
6 you think about the logistics tail that's behind that
7 aircraft, the carrier, everything else, and DOD has -- as I
8 understand it -- a variety of legacy systems that are more
9 complex than most organizations.

10 Benefits for consumers, it seems to me harder to
11 understand. If you've got a radio that's selling for 100
12 bucks and you want to make it a broader, more complex RF
13 front end that adds five or ten bucks to the cost of that
14 radio, you've made a big percentage change in the cost of
15 the radio, and unless the consumers really value those
16 benefits you won't see much of a change. In the military
17 situation, it's vastly different.

18 In terms of the implication for public safety,
19 again I'll offer some thoughts here. I think one of the
20 things we will see as these architectures creep out is that
21 more and more the radios will become general purpose boxes

1 that are specialized to a particular application by the
2 software that's loaded in, and consequently that may have
3 some ability to lower the cost of public safety radio.

4 If really the only difference between a digital
5 cellular phone and a public safety radio is that one
6 operates in the 800 megahertz, the other operations in 700
7 megahertz, one has got software load X, one has got software
8 load Y, there may not -- it may allow for reduction in the
9 cost. It may also lower the cost for public safety radios
10 that can operate in both the commercial mobile radio service
11 bands and public safety bands. The idea being the memory
12 chips aren't very expensive. You put in a big memory chip.
13 You can put both software loads in there and have some kind
14 of control that you switch between the two.

15 And here I'll say something where I am going to
16 get on a soapbox for two minutes and maybe it will set up
17 Bruce Franca's presentation. And that is in the new 700
18 megahertz band standards are still in flux. And products
19 haven't been fully defined there. There is going to be a
20 new commercial band right next to the public safety band.
21 There may be a lot of opportunities for economies there.

1 There is also a -- and it may be that software
2 defined radio techniques allow for exploitation of some of
3 those commonalities.

4 There is also a very interesting situation where
5 the commercial entities that are going to go into 700 are
6 going to have a very hard time providing service until they
7 can get the incumbent broadcasters out of there. And they
8 may be the ones that actually clear out the incumbents for
9 public safety, so there may be some synergy between the
10 growth of public safety in that band and the growth of the
11 commercial service.

12 Just to make it very clear, I have a client who
13 is interested in bidding on the commercial band in the
14 upcoming auction, and they are very, very concerned about
15 the incumbency problem. The incumbency problem with the
16 analog broadcasters, the digital broadcasters, the Canadians
17 and the Mexicans, and I don't think it's telling secrets out
18 of school to say their perception is that if they clear that
19 band, they aren't going to get any money on down the road
20 from the public safety community. The public safety
21 community will get --

1 THE AUDIENCE: That's what we're hoping.

2 MR. JACKSON: Yeah, and that they see that synergy
3 there that public safety is definitely going to be a free
4 rid. There is a more complex issue about if one person gets
5 the 10 license and another gets the 20 license, how they
6 share, how those commercial entities share the band clearing
7 cost. But there is the needs of the commercial users and
8 the needs of public safety community, and I don't know how
9 to exploit that, but just to leave it for a thought.

10 So anyway, I think software defined radios
11 important. That kind of architecture that lies behind the
12 software defined radio is really very fundamental.

13 What its full implications will be in terms of
14 will you be able to have a radio that's fairly wideband and
15 you can tell it somewhere and it will download and do all
16 the things you want, I think that's unproven yet, but we'll
17 wait and see.

18 Thank you for the opportunity.

19 (Applause.)

20 MS. WALLMAN: Well, have we got some questions for
21 Dr. Jackson from the steering committee or from the

1 audience?

2 (No response.)

3 MS. WALLMAN: I think you have covered everything.

4 MR. JACKSON: Well.

5 MS. WALLMAN: Thank you very much, Dr. Jackson.

6 MR. JACKSON: Okay. Thank you for the
7 opportunity.

8 MS. WALLMAN: We heard once before from Bruce
9 Franca so you may remember him and his expertise in the DTV
10 area. Bruce joined the FCC in 1974 as an engineer in the
11 Aviation and Marine Division of the Safety and Special Radio
12 Services Bureau, which is now the Wireless
13 Telecommunications Bureau.

14 He is presently the deputy chief of the Office of
15 Engineering and Technology, a position he has held since
16 1987.

17 During his tenure at the FCC, Bruce has been
18 involved in a number of significant technical matters,
19 including the development of direct broadcast satellite,
20 PCS, and DTV.

21 Before joining the Commission, Bruce worked for

1 the Naval Ship Research and Development Center in Annapolis,
2 Maryland, the Naval Electronics Laboratory Center in San
3 Diego, California, and the Naval Applied Science Laboratory
4 in Brooklyn, New York.

5 Bruce is a graduate of Pratt Institute in Brooklyn
6 and has done graduate work in electrical engineering at GW
7 here in Washington.

8 I would also like to introduce Richard Engelman,
9 who is the chief of the Planning and Negotiations Division
10 of the FCC's International Bureau. Richard is responsible
11 for coordinating domestic and international spectrum policy
12 at the FCC. In the division he is responsible for
13 organizing and directing the FCC preparations for the World
14 Radio Communications Conference now ongoing in Istanbul.

15 The division also directs and coordinates
16 Commission negotiations with Mexico, Canada and other
17 countries regarding the operation of the live radio
18 services, particularly in border areas.

19 Mr. Engelman has participated directly in several
20 national and international standards-related activities.
21 From 1992 to '97, he was the U.S. representative of the ITU

1 radio communication sectors task group, H/1, which has been
2 developing standards for third generation wireless systems
3 known as IMT 2000. Within the task group he was a member of
4 the IMT 2000 project management team and chaired a number of
5 activities, including a working group dealing with the
6 evolution of existing or near term mobile systems toward IMT
7 2000.

8 Mr. Engelman has a Bachelor of Science Degree in
9 electrical engineering from the Rose Holman Institute of
10 Technology and a senior member of the Institute of
11 Electrical and Electronics Engineers.

12 So Bruce, are you going to go first or?

13 MR. FRANCA: Yeah. I think I'm going to do some
14 talking and I think everybody is going to be available to
15 answer some questions.

16 MS. WALLMAN: Great. Okay, terrific. Okay.

17 MR. FRANCA: I probably have the biggest mouth.

18 MS. WALLMAN: Oh, the most informed mouth.

19 MR. FRANCA: Okay, what I thought I would do here
20 is kind of go over very briefly the kind of efforts that the
21 Commission is making in terms of the Channel 60 to 90

1 spectrum recovery effort, and talk a little bit about some
2 of the DTV transition issues, and then discuss a little bit
3 of the U.S.-Canadian letter of understanding, and then I'll
4 be available to kind of answer, along with Rick, and I
5 guess, Ron Netrow here, any questions and answers you might
6 have.

7 As I'm sure everybody knows, you know, the whole
8 DTV effort, the idea of DTV being a much more efficient
9 technology allowed us to look at towards recovering some
10 spectrum from the broadcast band and we reallocated Channel
11 60 to 69 from broadcasting with 24 megahertz going to public
12 safety, and of course we have your recommendations for
13 technical and operational standards before us right now.

14 Most of the recent activity at the FCC has sort of
15 centered around the 36 megahertz that's going to be
16 available for commercial operations through an auction. The
17 statute actually requires auctions to be completed by
18 September of this year. We have actually asked for a brief
19 delay and actually won't start the auctions until the
20 beginning of September.

21 But one thing that I think that, as Ari mentioned,

1 we do have a memorandum opinion and order scheduled to kind
2 of deal with some of the service rule issues with regard to
3 those commercial operations. And one of the things that we
4 are going to be looking at is ways to help speed the
5 relocation of incumbent TV operations, and I think that's
6 something that the public safety community should be
7 interested in.

8 This is basically just a slide on the 700
9 megahertz band plan.

10 I did kind of what to talk now a little bit about
11 the transition and kind of remind everybody at least that
12 that, you know, part of the spectrum availability is in fact
13 affected, and there is the synergy between the DTV
14 transition and the availability of spectrum. And while the
15 transition is scheduled to end in 2006, that there are in
16 fact statutory extensions permissible, and those are if
17 there is not a major network station in the market and
18 actually if there is less than 85 percent penetration of
19 devices that can receive DTV. So those are things to kind
20 of keep in mind as we go through this process.

21 How are things going in terms of the DTV build

1 out? Actually, at least in this beginning process, they
2 have been going pretty well. In the top 10 markets, we
3 actually have 33 stations on the air. In markets 11 to 30,
4 we actually have 47 stations on the air, and these numbers
5 are probably about a month old. We actually have 411
6 stations with CPs and total of 128 on the air.

7 In the top 10 markets, in actually eight of the
8 top 10 markets we have at least four DTV stations providing
9 service.

10 The Commission does have another docket and
11 another rulemaking that's I think that this community should
12 sort of be aware of, and that is the DTV periodic review,
13 and the idea here in the review is really to look at how the
14 introduction of DTV is going, but also to make sure that the
15 recovery of spectrum is also going on time. So I think it's
16 something that this community might want to participate in
17 and this -- we do plan to do these every two years and so
18 this is something that I think to keep on the radar screen.

19 What have we found so far is that basically, at
20 least as you can see from the numbers, things are going
21 pretty okay. Basically, there has been relatively few

1 construction problems. There has been a couple of local
2 zoning issues like in Denver, tower availability and getting
3 crews available, but things have been pretty much on time
4 and on schedule.

5 There have been a couple of issues raised though,
6 at least with regard to DTV transition. One is on the
7 receiver side of things in terms of compatibility with cable
8 systems, and then another issue with regard to the DTV
9 transmission standard.

10 We actually -- the Commission did issue a separate
11 MPRM on the cable compatibility issues. There looks like
12 there is real progress between the cable industry and the
13 consumer electronics industry, and hopefully these issues
14 will sort of go away and that makes it easier for consumers
15 to buy TV sets and I think that will help the transition
16 issues.

17 The other issue that has sort of been raised, and
18 this one has been raised by the broadcasters, primarily it
19 was Sinclair Broadcasting, raised some concerns about the
20 standard and the ability of the standard to provide
21 acceptable indoor reception. They have also looked around

1 and have raised concerns about perhaps there should be more
2 compatibility with the European standard called COFDM. And
3 so there is a number -- a lot of activity that's being
4 handled right there.

5 And we have a test program. We actually renovated
6 one of our TV trucks and we have been working with a number
7 of the receiver manufacturers to kind of quantify the DTV
8 design improvements. Industry has about a \$2 million
9 program that's going to be going on. Actually they are
10 measuring in a number of cities. And so -- but again, until
11 this issue is sort of put to bed, it does again raise some
12 issues and some concerns.

13 Now, talking about the Canadian letter of
14 understanding, this has been going on a long time. I mean,
15 we have been talking to Canada. Canada actually
16 participated in the DTV advisory committee activities which
17 actually started in 1989. We have been negotiating, at
18 least in terms of talking to them about how they should
19 develop a DTV plan, since at least 1991.

20 We adopted our table in '96, and actually it was
21 amended and changed in '97 when the final one was adopted,

1 and then Canada issued its table in 1998. And during the
2 recent time to get stations on the air, like in the top 10
3 markets, we have had an interim agreement which permitted
4 some conditional approval of some of the initial DTV
5 stations.

6 The public safety community has raised some
7 concerns about Canada's use of Channel 60 to 69, and also
8 about some of the language in the draft letter of
9 understanding, and I think a lot of the concern goes to the
10 fact that, well, in the United States we only put 14 DTV
11 operations on those channels. Canada has 64 DTV
12 assignments, and most of them actually -- all are within the
13 coordination area, probably about 40 out of those 64 raise
14 some coordination issues with regard to land-mobile or
15 public safety operations.

16 This is a little difficult to see but those are --
17 this is probably the area that's probably of most concern in
18 the northeast area and this shows where those Canadian
19 television assignments are.

20 How did Canada develop its DTV plan? They
21 actually kind of looked at our plan, and since they followed

1 on they actually -- their plan protects all the U.S. DTV and
2 NTSC allotments.

3 One of the things that should be noted, and I
4 don't think it's been discussed, both U.S. and Canada
5 attempted to minimize the use of Channel 60 to 69. And if
6 you actually go on their web site and look at their DTV
7 plan, they kind of tell you their parameters, and indicate.

8 This was a major issue actually in the development
9 of a Canadian plan, and Canada actually came back, you know,
10 one time when we first started talking about this and they
11 said, well, we really don't want to use these channels
12 either and could we basically have a more even distribution.

13 And I think, you know, we kind of told them no, we were
14 trying to recover and we thought that having us use more 60
15 to 69 channels would be worse for the public safety and the
16 land-mobile communities, but the trade-off really is, is
17 less use of Channel 60 to 69 by Canada means more use by the
18 United States.

19 THE AUDIENCE: Can you explain that a little bit
20 more?

21 MR. FRANCA: Sure. Basically, we went in, we put

1 in a whole bunch of stations in Detroit, and we tried to
2 avoid Channel 60 to 69. Canada comes in later and looks at
3 Windsor and says what channels are left over that don't
4 interfere with Detroit, and they are forced to use some
5 channels in the sixties.

6 And what they did is they came back to us, hey,
7 why don't we do this on a more equitable basis. So instead
8 of us, for example, having 12 channels and they have 64, why
9 don't we both have 35 or 40. Again, since we had plans to
10 recover this and we said we got there first, we kind of
11 resisted that in negotiations.

12 The other thing that Canada has indicated a desire
13 to reclaim a portion of the TV spectrum, and I think they
14 were concerned that they could not be as aggressive as we
15 are. They have a lot of TV stations very -- you know, in a
16 much smaller area. So they were really concerned
17 particularly about Channels 52 to 59.

18 But if you look at their actual DTV allotment
19 plan, you know, there is a statement in that plan that
20 basically operations on Channel 60 to 69 may need to move to
21 lower channels when only digital operation is left.

1 So they have already kind of given warning to
2 their broadcasters that they may not get to stay on Channel
3 60 to 69.

4 The other thing to remember here is that, you
5 know, we do have an existing treaty between the United
6 States and Canada, and that treaty really only allows for
7 broadcast operations on these channels. And so one of the
8 things the LOU would do is permit and recognize nonbroadcast
9 use of these channels by the United States.

10 You are absolutely correct that they have to
11 protect TV operations just like they have to do in the
12 United States, and the one thing it does do is it codify the
13 same co in adjacent channel protection as is required for
14 U.S. operations.

15 But the one thing it does indicate is that there
16 is no protection or no need to protect Canadian TV service
17 that extends beyond the Canadian border.

18 THE AUDIENCE: Excuse me, Bruce. Somehow we lost
19 your slides up there. There it is. Okay.

20 MR. FRANCA: A Microsoft moment, I guess.

21 So basically there is -- and that's a big plus. I

1 think that's a big plus compared to protection of U.S.
2 operations. We do have planned and we have, you know,
3 indicated to our counterparts up in Canada that, you know,
4 we do want to have discussions on nonbroadcast use and
5 sharing of Channel 60 to 69, and that is planned for the
6 very, very near future.

7 So I guess the message I have here is that, you
8 know, things are sort of moving forward. You know, there
9 is, the transition and recovery efforts are moving forward.

10 There is still a lot of issues that have to be resolved
11 besides Canada, and some of those could have an impact on
12 the availability of spectrum, and that there is a lot more
13 work that needs to be done by both industry and government
14 in this area.

15 So Rick and I would be happy to answer any
16 questions you might have.

17 MS. WALLMAN: Thank you, Bruce.

18 Harlan, did you have a comment to make?

19 MR. MCEWEN: Yeah, Bruce, the main point that I
20 would like to make on behalf of primarily the public safety
21 people who are planning to try to take advantage of this

1 spectrum along the northern border is that there -- we're
2 used to dealing with the police directly. You know, I mean,
3 when you get involved with public safety matters we try --
4 we don't get involved with treaties. We just talk to the
5 RCMP. We talk about police matters because they are not
6 treaty preventative. You know, I mean, we don't -- there is
7 no reason we can't.

8 When we get into these kinds of things what we
9 would like to do is to ask that you consider any way that
10 would be helpful to us in improving the coordination between
11 the Canadian and U.S. public safety people as it relates to
12 these discussions.

13 For instance, I regularly talk with people in the
14 RCMP and they, of course, talk with their Industry Canada
15 people. But the problem is that they are not often sharing,
16 like we're not, some of the public safety issues. They are
17 looking more at the commercial parts of it. So it gets a
18 little complicated.

19 When we talk to the RCMP and they find out what we
20 are doing down here, it's not on their radar screen very
21 well as it relates to making use of public safety some of

1 this spectrum, and immediately they tell me that would be
2 something that if they had been a little bit more earlier
3 aware of it, I mean, some people are up there, some of the
4 radio engineers, but some of the administrators aren't, they
5 would be more actively pursuing with Industry Canada some
6 similar arrangement for them to use some of that area --
7 that 24 megahertz, for instance, they might very well lobby
8 their people up in Industry Canada to use it for public
9 safety as well.

10 And so anything that you can do as you further
11 these discussions, keeping in mind that where we can be of
12 assistance in public safety to try to make this work better.

13 I mean, there certainly isn't any reason for the FCC or the
14 state department, and I don't want to do that, but the
15 Department of State really has limited involvement with
16 domestic public safety interests. I mean, at least as it
17 relates to radio stuff because it's not anything that's on
18 their radar screen or that they normally worry about.

19 So you are probably our best spokespeople for
20 those kinds of things when it comes to this, and we'd like
21 to work closer with you as it relates to this as it moves

1 forward.

2 MR. FRANCA: I think we would like to work closer
3 with you guys too, and I think these next set of
4 negotiations and conversations that we have, I think Canada
5 is, you know, clearly watching very closely the DTV
6 transition down here, and so, you know, they kind of want to
7 make sure that it's successful before they sort of jump in,
8 so they are sort of behind us, I think. But I think they
9 are committed to it. I mean, they are in fact participating
10 very heavily, for example, in these industry tests. There
11 was a whole -- a number of testing that's already been
12 ongoing in Canada sponsored by NAB and MSTV. So I think
13 there is lots of things going on here.

14 I think, to the extent that they see this as a
15 more efficient system and they know we sit down and start
16 talking about certainly 60 to 69, and say, okay, how do we
17 share across the border, I think that will get their
18 attention, and certainly, you know, we have a long history
19 of having very compatible allocations across the border, and
20 I think that will get their police and public safety folks
21 involved in this process and get Industry Canada talking

1 with those folks again. And I think they will be interested
2 in the commercial side of things also.

3 So, you know, I'm very encouraged that that's
4 going to take place, and you know, even if they go very
5 slowly to DTV, there is still not a lot of NTSC operations
6 there that I think we can make some real progress in terms
7 of making the spectrum available.

8 MR. MCEWEN: Okay, thank you.

9 MS. WALLMAN: Bob Schlieman.

10 MR. SCHLIEMAN: Robert Schlieman, New York State.

11 There were a couple of points that I wanted to see
12 if I could clarify.

13 MS. WALLMAN: The microphone is not picking you
14 up, Bob.

15 MR. SCHLIEMAN: Okay. There is always this
16 generic reference to one or more top four network stations
17 not yet on DTV being one of the delaying factors.

18 Who are the top four networks, and does that vary
19 by market area?

20 MR. FRANCA: ABC, CBS, NBC and FOX.

21 MR. SCHLIEMAN: Okay, and that's consistent in all

1 market areas?

2 MR. FRANCA: Yeah.

3 MR. SCHLIEMAN: Okay, even though there might not
4 be a FOX station in some area as opposed to PBS or --

5 MR. FRANCA: It's just the way the statute was
6 written.

7 MR. SCHLIEMAN: Okay. I hope you will stay around
8 for my presentation because I think the statement about
9 Canada tried to avoid use of 60 to 69 will become
10 graphically clear that it isn't quite right, I think, after
11 you look at some of slides.

12 MR. FRANCA: Well, I guess, you know, we have
13 allotment software, and we in fact went through their
14 process, and, you know, we did try to run our software to
15 offer suggestions. We gave them a sample plan, and we were
16 not, we were not able to do much better than they ultimately
17 came out with. So, you know, they have different criteria
18 than we used here in the United States. It's much more
19 protective of DTV to DTV operations, and, you know, they
20 have reasons for that. They have generally smaller service
21 areas, so they argued for a higher level of service because

1 of that.

2 But we in fact -- I mean, and we were pretty
3 successful here in the United States in avoiding it, and you
4 know, we think our software works pretty well.

5 You know, like I said, we did in fact look at this
6 issue because we certainly didn't want them to use it where
7 it could have been avoided.

8 MR. BUCHANAN: Dave Buchanan, Count of San
9 Bernadino in southern California, kind of go south last and
10 ask a little bit.

11 I understand Dave Eierman from our NCC
12 subcommittee group has done a lot of work on figuring out
13 where, you know, we have DTV problems for us, and he
14 indicates, at least at this meeting, that there is not
15 nearly the problem with Mexico.

16 What I was wondering, to give something when I go
17 back and talk to the rest of the group in southern
18 California for the San Diego area, is there any other treaty
19 things you are going to have to do with Mexico or are we
20 going to be able to allocate frequencies down there and
21 start using them in that area?

1 There is -- probably they are not going to be
2 impacted so much by the L.A. TV stations or we may -- you
3 know, we may be able to work around that with engineering
4 studies.

5 MR. FRANCA: I will defer to my colleagues from
6 International.

7 MR. ENGELMAN: I'll try to answer it. We do
8 already have a letter of understanding with Mexico that
9 allows us to implement DTV stations in the border area. I
10 don't believe -- I thought as I was walking in the door I
11 needed to relook at that to see whether it addressed the
12 public safety issues, and I don't recall off of the top of
13 head whether it did deal with the use for auxiliary,
14 nonbroadcast kind of operations in the band.

15 The advantage we have with Mexico is, unlike the
16 U.S.-Canadian border where something like 90 percent of
17 Canadian population is within 50 miles or 100 miles of the
18 border. With Mexico, you are largely limited to a few
19 problematic areas. San Diego/Tijuana being probably as bad
20 as any area on the Canadian border.

21 I think things are much more settled with Mexico.

1 I also think Mexico is probably much farther behind Canada
2 in terms of implementing DTV as well there.

3 So I will try to get back to you. I will go back
4 and try to make sure I can get an answer for you on where
5 the Mexican agreement is on this because I just don't
6 recall. We reached that agreement about a year ago, and
7 this was not -- this has raised in its importance as time
8 has gone on, but we certainly knew at the time we reached
9 the agreement that nonbroadcast use was coming.

10 MR. FRANCA: Yeah, I think both of these -- one
11 thing to kind of point out here, these are both, you know,
12 interim arrangements until we kind of sit down and put
13 together a more formal agreement, and it's to basically get
14 the DTV transition moving and to kind of allow these, you
15 know, operations to kind of go into the band. I mean, we
16 have a more formal treaty on the operations here and is
17 going to take some time.

18 And so this is -- and we have lots of room to kind
19 of negotiate and change and do other things, but I think,
20 you know, we want to get this process going so that we can
21 start implementing, you know, these stations so that the

1 transition moves forward.

2 MR. BUCHANAN: Yeah, well, we are real interested
3 in you finishing up so that we can implement public safety
4 systems in the band too. We've been waiting for quite
5 awhile also.

6 Thank you.

7 MR. BURSS: I am Bob Gurss. I've got actually
8 three questions, one generic, one Canadian and one Mexican,
9 or one L.A., I should say.

10 Generically, I know there has been this concept
11 discussed of negotiated relocation of the TV stations.
12 Chuck mentioned it earlier in his discussion where
13 presumable the commercial auction winners would negotiate
14 with the broadcasters to get them to move sooner.

15 One of the things I can see where that might lead
16 is where say a Channel 64 station agrees to move but they
17 are not ready to give up analog, and what they want to do is
18 move their analog to their digital allotments, say on 22 or
19 something, until they then do a single replacement in the
20 future.

21 Now, in some cases that's not possible because the

1 deed to the allotments are narrower or tougher to squeeze
2 in.

3 MR. FRANCA: Right.

4 MR. GURSS: But do you see the Commission being
5 able to try to facilitate those by trying to find
6 alternatives or helping out in that process?

7 MR. FRANCA: I think we will, but I would think
8 that in almost every instance moving down your analog is
9 impossible or else they wouldn't have moved up. It's always
10 better to be lower in those frequency bands. So, you know,
11 in almost all of those instances that's really not a viable
12 solution unless you are going to dramatically reduce your
13 service area.

14 MR. GURSS: Although I suppose that might be part
15 of the negotiation.

16 MR. FRANCA: It could be.

17 MR. GURSS: On the Los Angeles situation, actually
18 other markets too, but L.A. is the worst in the sense that
19 there is not only their analog stations but there is also
20 digital stations in those markets.

21 How do you see the transition working where you

1 have got digital stations in 60 to 69, in a couple of cases
2 where there is analog allotments also up there?

3 MR. FRANCA: Well, as part of -- one of the
4 reasons I suggested that you guys should look at the DTV
5 review item is that we discuss that issue quite a bit there.
6 And one of the proposals that we have made is to require
7 broadcasts to identify by a date certain their final DTV
8 channel, and that will allow us to solve and -- we have some
9 short spacings and some other things that need to be cured,
10 and clearly if you've got tow outer core channels, we have
11 to find you a final place to have your operation.

12 And so by requiring everybody to say where do you
13 want to land and we reserve the right to kind of say yes or
14 no, we'll be able to do that in sufficient enough time to
15 give them time to build a station and to move to that new
16 facility.

17 MR. GURSS: Okay. On the Canadian side of things,
18 are there some issues, such as I -- for example, I
19 understand that the Canadians were more liberal in assigning
20 DTV allotments than we were in the U.S. in some cases
21 perhaps.

1 Are there issues like that that perhaps, for
2 example, the Canadian public safety community ought to be
3 looking at and saying, hey, we in Canada need to be a little
4 more conservative so we can trade some more spectrum for
5 public safety.

6 MR. FRANCA: Yeah, I mean, one of the things
7 Canada did is they basically preserved some vacant
8 allotments. We didn't do that. They also gave a second
9 channel for low powered, so low powered television
10 operations, but again those are not protected and it's
11 recognized that they are not protected, that they are
12 secondary type operations.

13 None of -- none of the 60 to 69, they are all on-
14 the-air television stations. I mean, we would have and they
15 did not do -- they did not, in fact, some of the instances
16 where they did not provide, you know, a second channel were
17 cases where their 60 to 69 was the only available channel if
18 it was to a vacant allotment.

19 MR. GURSS: Okay. Thank you.

20 MR. EIERMAN: David Eierman with Motorola. I'm
21 chair of the DTV transition committee in the NCC.

1 My third question was basically what you just
2 answered, was the fact that Canada has allotted 60 through
3 69 to low powered TV and to vacant allotments.

4 Now, you just said that --

5 MR. FRANCA: No.

6 MS. WALLMAN:

7 MR. EIERMAN: Hum?

8 MR. FRANCA: No, I mean all -- I mean, I've got
9 the list. They all have call signs and they are now low --
10 now remember there is two different kinds of low power
11 stations. There is the kind of low power stations we used t
12 have in here before Class A.

13 MR. EIERMAN: Yeah.

14 MR. FRANCA: That they are not protected, and
15 Canada has lots of those, but they do have, again, varying
16 classes of stations, some of which are --

17 MR. EIERMAN: Yeah, there are like five various
18 classes of full power and --

19 MR. FRANCA: Right.

20 MR. EIERMAN: -- two of low power or something.

21 MR. FRANCA: Well, very equivalent to what we

1 would consider a low power operation, but those are fully
2 protected, full service and recognized in the treaty
3 stations. And if you look at the DTV, every station that
4 has been assigned to 60 to 69 has a call sign, which means
5 it's on the air in Canada. I mean that's -- there is no
6 vacant allotments that were kind of assigned 60 to 69. I
7 have the list, maybe we can -- after this --

8 MR. EIERMAN: I mean, I have the Industry Canada
9 list and it looked to me like even though they had call
10 signs a lot of them I couldn't really tell that they were
11 actually on the air because some of those other columns tell
12 you different things about, you know, the status of them.

13 You know, like we have CPs and applications. They
14 have about 12 classes --

15 MR. FRANCA: Right.

16 MR. EIERMAN: -- that the station has got to go
17 through to get on the air.

18 MR. FRANCA: Right.

19 MR. EIERMAN: Yeah.

20 MR. FRANCA: Those look sort of valid. In other
21 words, we had eligible stations.

1 MR. EIERMAN: Yeah.

2 MR. FRANCA: I'm just saying that those are not
3 vacant allotments. Those were either in the process or
4 actually on the air.

5 MR. EIERMAN: Yeah, and I'm not -- you know, the
6 ones that are secondary, I mean, you know, what you're
7 saying is we could implement on our side of the border as
8 long as we don't --

9 MR. FRANCA: Yeah, we don't --

10 MR. EIERMAN: -- interfere with them. The problem
11 is if they are over there, they are still going to interfere
12 with us, you know, on our receive side. So I don't know
13 that that actually helps us, so I'll have to go look at the
14 analysis and see if one-way direction helps us, but maybe
15 Bob needs to look at that too.

16 MR. FRANCA: Okay.

17 MR. EIERMAN: But I'm not so sure that helps us at
18 the moment.

19 I've got two other questions. One is, you know,
20 the analog transmission is supposed to stop on December 31,
21 2006 or whatever, okay, assuming you meet the concentration

1 criteria.

2 Now, these DTV stations that are on 60 through 69,
3 I think there are seven that affect public safety
4 continental U.S.

5 When do they have to cease operation? I sit -- I
6 mean, as soon as possible after that date, or when they can
7 transition to another channel, when their license expires?

8 MR. FRANCA: It's under the statute. I mean,
9 basically there is the exception. I mean, we have 2006 is
10 still the date, and there is no exclusion under -- you know,
11 under those where a broadcaster can request an extension of
12 that date, there was no separate provision made for 60 to
13 69. So I would --

14 MR. EIERMAN: So if somebody got a DTV license
15 today, their license date would stop December 31, 2006?

16 MR. FRANCA: A DTV license?

17 MR. EIERMAN: A DTV. I'm only worrying about the
18 seven DTV that are going to affect public safety. You know,
19 the analogues have to shut off, but there are seven DTV out
20 there that have recently got licenses, assuming they have
21 eight-year licenses, they can operation until 2008 or more.

1 MR. FRANCA: Right. I mean, I think that's part
2 of the issues that are being raised in that other
3 proceeding.

4 MR. EIERMAN: Okay.

5 MR. FRANCA: And I think that's why I suggested
6 that you guys participate in it. I think we will probably
7 look at that on a case-by-case basis, and the idea is -- if
8 we can find different places --

9 MR. EIERMAN: Yeah.

10 MR. FRANCA: -- for those folks to go, we want to
11 clear them. The whole intent here is to get them off of
12 there as quickly as possible.

13 MR. EIERMAN: Okay. And the third question is
14 about cable. You know, we sort of have a date certain when
15 analog -- over-the-air transmission has to stop. But the
16 moment I don't see where cable has a date certain when they
17 have to -- you know, have to guarantee that their systems
18 are upgraded so that they can carry digital transmissions.

19 So I mean, you know, is there -- I mean -- and if
20 they can't, I mean, they are going to have to convert to
21 analog or something.

1 MR. FRANCA: Well, again, this is a six -- there
2 is lot of -- well, there are not a lot, but there are cable
3 systems today that are carrying digital programming.

4 MR. EIERMAN: Yes.

5 MR. FRANCA: And you know, if all you are doing is
6 sort of making a trade channel for channel, that's easy to
7 do. I mean, there is no -- one of the things in developing
8 the DTV standard was to make sure that was -- it could go
9 over the cable system --

10 MR. EIERMAN: Yeah.

11 MR. FRANCA: -- in a relatively easy way. There
12 is actually a mode to allow two channels, to HTV channels to
13 go over a single cable channel. But the simplest way and
14 the way, for example, that's being done in New York is all
15 they do is take HVSP, send it over one of the cable channels
16 at six megahertz just like analog. It's actually a little
17 bit more robust and, you know, it goes through the cable
18 system no problem at all.

19 The question is as cable systems are upgrading to
20 digital to basically make those systems much more efficient
21 and kind of transmitting it in sort of different ways. That

1 raises lots and lots of issues and, you know, must carry and
2 with material degradation of a single if you convert it to
3 something else, and what can you convert it to, what has to
4 be carried and those are much tougher issues that, you know,
5 I think it's going to be a awhile before the Commission kind
6 of really comes to a conclusion on all those things.

7 MR. EIERMAN: Okay, thank you.

8 MR. COWPER: Tom Cowper from the State of New
9 York.

10 You guys are aware that there was some significant
11 interest by policymakers in the State of New York over this
12 Canadian DTV issue. And I need to go back and I'm going to
13 have to explain what went on here today to some of those
14 policymakers, and I would just like to clarify a few of the
15 statements. You probably answered some of this stuff within
16 your presentation, but I would like to just clarify it.

17 MR. FRANCA: Sure.

18 MR. COWPER: What's the current status of the LOU
19 between Industry Canada and the FCC?

20 MR. FRANCA: It's a draft, it's a draft right now
21 that's being reviewed at the staff level, and I will let the

1 people that are handling the LOU explain.

2 MR. ENGELMAN: It is a draft. On the Canada side,
3 the Industry Canada people that are involved with this are
4 largely in Istanbul, Turkey, at the World Radio Conference
5 right now. When they get back next week, it's actually
6 over, I think, as of this point today. When they get back
7 next week this will be one of the things that they will
8 begin to start looking at once they are unpacking and get
9 settled.

10 There is a pressure to get this resolved, and the
11 reason is from a number of standpoints. Number one, without
12 this kind of agreement no use of the spectrum can be done
13 within the border area, within, I think, it's 250 miles of
14 the border for anything but analog television. So you can't
15 put any public service up there, any commercial operation,
16 any digital television station within the border area until
17 we get an agree. So there is a lot of pressure to get a
18 letter of understanding put together relatively quickly so
19 we can deal with these issues.

20 We have had, if you would, a very unofficial
21 gentlemen's agreement that has allowed the U.S., who is

1 starting to put some DTV stations in to do that on an
2 interim permission basis pending this agreement. But we
3 really don't want to delay this very long, or it really will
4 affect the ability for analog stations to begin to move to
5 DTV and clear their channels and for public safety and
6 others to get access to 60 - 69. The longer we don't have
7 an agreement the longer it will be before you can begin to
8 do that in the border areas.

9 So I hope that answers that question.

10 MR. COWPER: It answers that question. I would
11 just like to make the comment that, you know, an LOU that
12 doesn't allow us to use Channel 60 to 69 and doesn't allow
13 public safety to use those channels within 250 miles of the
14 border really doesn't do us any good.

15 MR. ENGELMAN: And the LOU will not do that. In
16 fact, as I think Bruce said earlier, the LOU in fact does
17 allow you to use it within the border area, and what the LOU
18 gives you that you do not have now is the ability to operate
19 and not protect a Canadian broadcaster except at the U.S.-
20 Canadian border.

21 If you look at what our rules require you to do

1 domestically, you have to protect existing broadcasters on a
2 separation basis that will protect their full coverage area.

3 With Canada, you can operate more closely to the border
4 because you don't have to protect their coverage area in the
5 U.S. And there are a number of other steps we have taken to
6 try to make it easier, in fact, for the nonbroadcast use of
7 60 to 69.

8 MR. COWPER: What's the FCC going to do next as
9 far as negotiations with Canada goes? And do you have any
10 kind of general time table for that?

11 MR. ENGELMAN: We are waiting for them to get back
12 and then we will explore with them where we are at. As I
13 said, we would like to get a good agreement. I would agree
14 with you. We don't want a bad agreement and we're not
15 rushing to sign a bad agreement. We are trying to get an
16 agreement that will allow nonbroadcast use of the spectrum,
17 that will allow television use of the spectrum, and we would
18 like to do that within a very quick time period.

19 A month, something like that.

20 MR. COWPER: Up until now a lot of these
21 proceedings, particularly the LOU, have been -- I don't know

1 whether to classify them as informal, but certainly not open
2 to public scrutiny, and we would like to have more
3 involvement, at least more information on this process
4 because, you know, it directly affects what we are trying to
5 do in the State of New York.

6 Is there anything that we can do to assist in this
7 process?

8 MR. ENGELMAN: Well, one of the reasons we are
9 here today is to try and open up that public process. We
10 have been working within the Commission, the negotiations
11 team has involved representatives from all of the bureaus
12 that are involved and the various services. So we have been
13 negotiating, the Office of Engineering Technology, which
14 deals with spectrum misuses in general, or mass media folks
15 and our wireless folks have all been involved in helping to
16 craft this agreement with Canada.

17 And we have, perhaps not formally, but informally
18 been trying to work through their contacts to make sure that
19 we do have the right input into this agreement.

20 We will do our best to keep you appraised of where
21 the agreement is, and to solicit your input on that, and

1 that's why, you know, both Bruce and I are here today to
2 hear your concerns. They are not new. We have been aware
3 of the for awhile and we've been trying, as I said, to find
4 ways to address these concerns.

5 Unfortunately, what we don't have the luxury of
6 being able to do is to somehow create new spectrum that's
7 going to free up all of 60 to 69 throughout the U.S. and
8 Canada and Mexico. That just doesn't seem possible at this
9 point in time. Maybe after 2006, it will, but at this point
10 in time we're not quite sure how that can happen. And so we
11 have to work with you and we hope you'll work with us to
12 come up with an agreement that at least gets you some
13 reasonable amount of access to the spectrum, and that would
14 be our goal.

15 MR. COWPER: That's all we're asking for is some
16 reasonable access. Thank you.

17 MS. WALLMAN: I want to focus on that last set of
18 points. In this meeting and in prior meetings and informal
19 discussions I have sensed some either frustration or
20 anxiousness or maybe both that this important decision is
21 being made in government-to-government negotiations, which

1 is where it belongs, but some anxiousness that the people
2 who are going to live with the results should have some
3 information and input.

4 So it might be worthwhile if you could take a step
5 back and just -- you know, I have some general understanding
6 that since it is a government-to-government process there is
7 a limit on the extent to which outsiders can be in the
8 process itself.

9 Can you describe the limitations that are formally
10 or notionally adopted about sharing information or about
11 soliciting information, and are there specific things that
12 you might offer here or take suggestions about, you know, to
13 meet with some of the New York folks who have expressed the
14 most acute concerns about this?

15 Can you tell us what the limitations of the
16 process are?

17 MR. ENGELMAN: I think the only limitations that I
18 would speak to is that generally the negotiations are
19 government to government, and that's the way the
20 negotiations have to be because we as the regulators or the
21 state department in the case of the foreign affairs office

1 has to represent the broadest constituency of the U.S.

2 Having said that, there is no difficulty with
3 sharing information and status reports of what's going on in
4 the negotiations, or for us to solicit and work with you to
5 get your input. We actually would like to do that and to
6 some extent believe we have, but obviously we haven't done
7 it well enough to make you comfortable that we have, and I
8 think that is a problem that we would like to rectify.

9 So if you are suggesting should we -- could we
10 meet with the New York folks, we'd be happy -- I would be
11 happy to meet with the New York folks and talk with them. I
12 will stay and hear the presentation that's coming up as well
13 because I think that will be interesting, and would offer
14 that to anyone, that we will do our best to keep you
15 informed, but that negotiations by their very nature have to
16 be government to government.

17 I don't -- Bruce?

18 MR. FRANCA: You know where we live. You know, we
19 will meet and talk with anybody. I mean, we certainly want
20 to make this, you know, as many people happy about what we
21 are doing in this process as possible, you know, and I think

1 we have tried hard to protect -- you know, we thought up the
2 idea to reclaim the spectrum. I mean, you know, and I
3 argued hard to do that, and, you know, so I think we want to
4 see this to be very, very successful both for the commercial
5 folks and for the public safety folks, and I think we owe
6 the public safety community, you know, a lot for making this
7 happen.

8 MS. WALLMAN: Thank you very much. Thanks a lot.

9 Bob, do you want to go ahead? Why don't you just
10 dump a bunch of copies and we'll pass them out so you don't
11 have to struggle with the whole computer.

12 THE AUDIENCE: Yeah, don't drop your computer.

13 MS. WALLMAN: Yeah, don't drop your computer.

14 MS. HAMM: Kathy?

15 MS. WALLMAN: Yes.

16 MS. HAMM: Excuse me for one minute.

17 I just want to know, I was talking with Rick about
18 keeping you all informed on what's going on here with the
19 Canadian situation, and one thing that he and I just talked
20 about doing was maybe posting a fact sheet of some kind on
21 the NCC web site, so we're going to with IB on that to see

1 if we can come up with something there as one little way of
2 keeping you informed.

3 And of course, in addition to Rick and Bruce, who
4 are the resident experts on this, but, you know, my door is
5 always open and my e-mail address many of you already know,
6 but KHAMM.gov so I welcome your input on this as well for
7 the Wireless Bureau.

8 MR. SCHLIEMAN: Robert Schlieman, New York State
9 Police.

10 You probably all heard this before but New York
11 State has been working on a statewide radio communications
12 project now for a number of years. Several million dollars
13 worth of planning have gone into this, and the 700 megahertz
14 spectrum is extremely important to our achieving this goal.

15 The program is intended to provide a common
16 communication system, the ultimate of interoperability, if
17 you will, for all agencies of the state and any local
18 agencies that wish to participate.

19 So these are our recommendations for resolution of
20 the problem between U.S. and Canada regarding the 60 to 69
21 band.

1 The point was made that the letter of
2 understanding apparently has been updated. We became aware
3 of a November 15 draft as a result of it being posted on a
4 consulting engineering firm web site. That company was
5 working on broadcast concerns regarding the agreement, the
6 letter of understanding as it's called. And in their first
7 analysis report they identified that they received the
8 report from a Canadian official, and that they were advised
9 there were not restriction on its dissemination, so they
10 felt it was okay to post it on their web site. Apparently
11 in the U.S. it's a little different because we haven't been
12 able, and I understand many other agencies even at the
13 federal level have been unable to obtain copies of the
14 document.

15 One of the issues, of course, was that no
16 consideration was given to protection 746 data, six
17 megahertz spectrum along the U.S. border according to the
18 LOU. There was nothing in there that deals with that issue.

19 Unlike the U.S. plan, Canada allowed the DTV
20 channels to all active primary class TV stations, all
21 secondary class TV stations, and all future channel

1 allotments.

2 We think the Canadian plan can be reshuffled
3 clearing Channel 60 to 69 within the LOU's 400 kilometer or
4 250 mile range of the border, and that's the only way to
5 protect the U.S. and future Canadian public safety and
6 commercial spectrum.

7 I might point out that in the comments that were
8 filed, which we became aware of on the Industry Canada web
9 site, there were comments filed on their DTV plan that were
10 supportive of keeping these channels clear for future use by
11 public safety in Canada, and also by commercial service
12 providers who wanted to go all the way down to 51, which is
13 fine. We don't have any problem with that.

14 Preliminary investigations and analysis indicate
15 that successful reshuffling is possible. We suggest
16 reconsidering the criteria for Canadian allotments, what is
17 realistic and what is feasible, somewhat in the same vein
18 that the FCC and the U.S. created a plan for what was
19 realistic and what was feasible.

20 It's important to understand the Canadian TV
21 station class structure because, first off, it's based on

1 NTSC and so the symbols are more relevant, like VL stands
2 for VHF low, and VU, VHF upper or in our case high band as
3 we call it, and then you have the three, A, B, C
4 classifications in UHF, and then you have the low power
5 classification.

6 And in each of those classifications has a Grade B
7 protected contour, and that's the material relationship to
8 these classes, the protected contour or the area of their
9 service.

10 In studying the way the allotments break down it
11 comes out this way, and as the bottom line summary is over
12 50 percent of the Canadian DTV allotments are for low power
13 station, and FCC did not preallot any DTV for low power
14 stations.

15 I would comment that Canada is much more
16 constrained in their authorizations for transmitter power
17 and coverage, and I think that's indicative, as you will see
18 from the distribution in the maps. This is the low power
19 class allotments. This is for A, B, or C UHF allotments.
20 Canadian DTV VU class, VHF upper as it was originally, which
21 is your second highest radius of coverage, and the VL class,

1 which is 89 kilometer radius to the Grade B contour.

2 The high population density areas showing all
3 classes from V to LP are shown in this graphic. The
4 breakdown of Canadian DTV Channels 60 to 69 allotments by
5 station class and 84 percent are in the 60 to 69 for low
6 power. Almost all of the remaining 16 percent fall near the
7 Canadian-U.S. border, and obviously their population density
8 is near the border. We recognize that also.

9 However, when you look at the distribution of 60
10 to 69 across the border area you find that there is an
11 extremely heaving concentration, particularly of the higher
12 powered stations in the northeast, and very little of the
13 higher powered stations in other parts of the country, there
14 is one that impacts the State of Washington and probably
15 down to Portland, Oregon from Victoria, British Columbia,
16 and there is one that impacts the commercial spectrum up
17 near the -- in the border area between British Columbia and
18 Washington, the other red dot.

19 Canadian DTV low power allotments by channel and
20 you can see that 60 to 69 is 20 percent, and 55 percent of
21 the DTV allotments went in 14 through 50 are a low power

1 class.

2 New or future Canadian DTV allotments, and that's
3 the way it was broken down in the Canadian plan data, they
4 don't differentiate between -- in that plan between
5 applications that are in process somewhere along the way and
6 those which are for allotments for future potential
7 stations. And here we look at it in terms of the channel
8 range for those new or future allotments.

9 So 13 percent of all Canadian DTV allotments are
10 on Channel 60 to 69, almost all of these are near the U.S.
11 border. The use of both public safety and commercial
12 auction spectrum is limited in border regions by these DTV
13 assignments, and affects areas up to 400 kilometer from the
14 border.

15 Over 55 percent of all Canadian DTV allotments are
16 for low power class stations. Canadian allotted DTV channel
17 allotments for over its 1800 low power class stations, more
18 than all U.S. DTV allotments, approximately 1664 combined,
19 the number of U.S. low power allotments is essentially zero
20 because they were secondary and we don't provide an
21 allotment before the transition to any low power stations.

1 Eighty-four percent of the Canadian DTV allotments
2 that are on Channel 60 to 69 are low power class stations.
3 Canadian DTV allotments, 27 percent of all of those are for
4 future or proposed stations.

5 The U.S. dramatically reduced the total number of
6 allotments. Why can't Canada? That's a negotiation point,
7 I think.

8 Almost 30 percent of Canadian DTV spectrum is
9 recoverable if only existing stations are considered. The
10 breakdown of new or proposed stations by channel range is as
11 follows, and those ranges, you see them on the chart there.

12 Recommendations: Eliminate the nonprotection of
13 public safety from Canadian interference. Now, we have heard
14 that the revised draft apparently no longer protects Canada
15 from interference in the U.S. I can go to another slide
16 that shows the impact of Canadian transmitters on UHF land-
17 mobile radio receivers, which makes it a far from one-way
18 street situation as far as the land-mobile radio.

19 If we were running paging transmitters, you know,
20 with tons of power, maybe we could get away with that, but
21 in a land-mobile and particularly a public safety land-

1 mobile application we really need to be able to talk out and
2 talk in the same.

3 Block out Channel 60 to 69 in Canada within 400
4 kilometers, 250 miles of the border. First allot DTV
5 channels only for the active primary classes, VL, VU, C, B
6 and A in that order, prioritizing by the largest protected
7 contour first.

8 And I might say that this maybe should have a bone
9 in front of that that say starting with the highest
10 population areas first, then move onto allotting the DTV
11 channels prioritized by their largest service area first.

12 This by the way is very similar to what we had to
13 do when we were packing the NPSTC channels. We had to work
14 around station and so we had to block out areas where they
15 had to be protected and come up with areas where we could
16 slide in other stations. Because 60 to 69 was not blocked
17 out to begin with, we ended up with this problem that we
18 have.

19 Then after that part is done allot DTV channels
20 for the secondary class of active TV stations -- battery
21 saving -- oops, let's try. Here we go -- to the maximum

1 extent possible. That is the same -- actually going one
2 step beyond where the FCC went with our channels. And
3 finally, make allotments for future DTV stations to the
4 maximum extent possible after that.

5 Upon completion of DTV transition, additional
6 channels will become available to complete the allotment
7 process.

8 End of presentation.

9 I have some extra copies which I will distribute.

10 MS. WALLMAN: Mr. Engelman, I don't wish to put
11 you on the spot, but I wondered if you had any comments on
12 the feasibility of some of the suggestions here?

13 MR. ENGELMAN: Well, naturally, my initial
14 reaction is I'd love to look at them all closely and see if
15 we can find a way to address them, and that's my quick
16 reaction to it.

17 I think a couple of things you have to realize as
18 you look through this, the large number of low power
19 allotments here, the draft agreement actually calls for no
20 protection of low power allotments at all, so that to some
21 extent, and this is something that I can't answer but we can

1 look into it, it may well be that low power allotments,
2 taking them away or deprioritizing them doesn't result in
3 any spectrum being opened up because in fact what may well
4 have happened is they started from exactly as you would have
5 told them to do. Start from the beginning with the higher
6 powered stations and fit those in, and the low power ones,
7 which get no protection, they fit into the holes and the
8 gaps.

9 So even if you take them back out of the holes and
10 the gaps, you may not find room to put the full power
11 stations back in.

12 But I certainly -- my quick reaction is you've
13 raised some good points here. I would certainly want to
14 look at those, and see what we can learn. And obviously if
15 there are some changes that should be made and can be made,
16 we can talk to Canada about that.

17 I would caution you that we've had these ongoing
18 negotiations with Canada for probably two years now. The
19 minute you open the door too wide to new negotiations it
20 could well be another two years, and that two years could be
21 the kind of thing that would cause some of the deadlines of

1 analog stations getting their DTVs on in the border area and
2 so forth to be pushed back and could push the whole access
3 to the spectrum back.

4 I would not want to spend two more years
5 negotiating an agreement with Canada because I think that
6 would probably push you guy back in many parts of the
7 country for a long time, and I don't think that would be
8 wise.

9 But I do appreciate the recommendations and we
10 will look at them and see if they -- what we can do with
11 them, and I would suggest, and I'll talk to the other
12 negotiators, that we will certainly present them to the
13 Canadians as well and to see what their reaction is.

14 MR. SCHLIEMAN: I appreciate that.

15 And I just want to make sure that that slide on
16 the screen is very clear that the predominant 60 to 69 high
17 power is in the northeast, in our major population area also
18 along with theirs. It just does not appear that they
19 started by blocking 60 to 69 and then trying to do what they
20 could around that, and that's -- that's why we think it's
21 possible to reevaluate this.

1 And we certainly don't want to wait two more
2 years, but the fact of the matter is if it doesn't work for
3 public safety and/or commercial in those high population
4 areas, then what good is a border agreement.

5 MR. ENGELMAN: Well, I certainly understand that,
6 and the one other point I would say is I do know that the
7 FCC itself, as Bruce Franca said earlier, has done its own
8 allotment studies. In fact, we did -- presented a draft
9 plan to Canada before they had developed their own DTV
10 allotment plan and it called for the same kind of
11 distribution in order to get the necessary allotments in,
12 and with the same kind of prioritization we used
13 domestically to keep stations out of 60 to 69, it still
14 resulted in the need for significant use of that in Canada.

15 The difficulty Canada has is -- I think if you
16 look at the graph and then if you plotted all the TV
17 stations within Canada, I think that graph would be very
18 typical of where all the stations are in Canada because
19 their population areas are largely, with a rare exception,
20 within 100 miles of the border, and also with rare exception
21 in the northeast of the U.S. with the exception of clearly

1 Vancouver and a few areas out west. But I'm not sure that
2 that distribution is unique to 60 to 69. It wouldn't
3 surprise if it looks the same in every other segment as
4 well.

5 But I appreciate -- you know, we are not into --
6 we are not trying to sign an agreement rashly or to do
7 something that isn't well thought out and isn't in the best
8 interest of all of our constituents, if you would, and
9 certainly of you. And so we'll take this and we'll see if
10 we can use it to make some further improvements. At this
11 point it's hard for me to say, but we appreciate the
12 recommendations.

13 MR. SCHLIEMAN: We would certainly welcome the
14 opportunity to have some further discussion on alternatives
15 to help the process along because it is something that we
16 need to resolve for us as well as you need to resolve for
17 the entire DTV agreement.

18 MR. ENGELMAN: Well, let me start by looking at
19 this and then we would be happy to talk with you further.

20 MR. SCHLIEMAN: Okay, thank you.

21 MR. ENGELMAN: Thanks.

1 MS. WALLMAN: Thank you very much, Mr. Engelman.

2 That is -- apart from the opportunity for folks to
3 raise other business that we need to consider, that was the
4 last formal part of our agenda today.

5 Is there other business that members would like to
6 raise?

7 (No response.)

8 MS. WALLMAN: Hearing none, thank you very much
9 and we will see you in September at the Department of
10 Commerce Auditorium. Thank you very much.

11 (Whereupon, at 3:09 p.m., the meeting in the
12 above-entitled matter was adjourned.)

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