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DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration

FAA Public Forum
To Conduct Regulatory Review of
14 CFR Parts 27 and 29 Rules

Tuesday, March 8, 2011
1:00 p.m.

Orange County Convention Center
9899 International Drive
South Concourse, Room S.310
Orlando, Florida

Reported by:

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FAA Panel Members:

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Larry M. Kelly, Manager, Rotorcraft Standards Staff

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Jorge Castillo, Manager, Regulations and Policy Group

4

Kim Smith, Manager, Rotorcraft Directorate

5

Stephen Barbini, Flight Test Engineer, Rotorcraft
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6

7 Eric Haight, Propulsion Specialist, Rotorcraft Directorate

8

Sharon Miles, Structures Specialist, Rotorcraft
Directorate

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10 Audience Commenters:

11 Wayne Barbini, Uniflight

12 Dan Devitt, American Eurocopter

13 Alan Todd, American Eurocopter

14 Ian Scott, Brunei Shell Petroleum

15 Milton Geltz, Metro Aviation

16 David Downey, Bell Helicopter

17 Roy Fox, Bell Helicopter

18 Peter Lyons, Aspen Avionics

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1 MS. SMITH: All right. Well, as I see people
2 coming in and sitting down, thank you very much.

3 I want to welcome you to our public meeting. I

4 have to tell you, I am very excited about this.
5 Believe me when I say, I'm from the FAA and I'm here
6 to help. We really, really want to hear from you.

7 I think most of you realize the regulations
8 that we've put together started decades ago. And
9 when we put these FAR parts together, they really were put
together
11 with the best minds and all the technology
12 that existed at the time and everything that we
13 anticipated. Well, here we are several decades
14 later and we're still operating using the same rules
15 and certifying to the same things.

16 So the Standards staff here really thought it
17 was a good time to go back and look at Part 27 and
18 Part 29 and ask, are they still okay, are there places
19 we could improve, are there gaps in those rules? So
20 that's what we're here to do today. So I
21 want to say welcome. I am going to step off the
22 stage because great minds are next to me. But with
23 that, I look forward to everything we -- you all
24 have to say. I'm going to introduce Larry Kelly,
25 the manager of the Standards staff.

4

(FAA Presentation: Regulatory Review, 14 CFR Part 27 and 29 dated March 8, 2011)

1 MR. KELLY: Well, I want to thank you again for
2 coming. It has been a while, Kim. It's been
3 probably 30 years, maybe the late 80s since we've
4 done a regulatory review. It seems like it was
5 about time to do it again. So although regulations
6 are extremely difficult to do, as I think John

7 McGraw mentioned this morning, that doesn't
8 alleviate our responsibility to at least look at
9 what needs to be done.

10 And so today, we're going to share several
11 things with you. The real objective of today is to
12 get your input. That's what we're really looking
13 for. Not knowing how many people might show up and
14 since this hasn't been done in 30 years, we decided
15 to put together some inputs that we received from
16 NTSB and others, to let you know what's coming our
17 direction. And then we'll take a pause and give you
18 the opportunity, which is the real objective, to
19 mention what you would like to see in the
20 regulations.

21 A lot of these regulations are geared toward
22 things we would like to revise or add. There's this
23 other piece: what should we take off? Since we
24 haven't done this regulatory-type thing for 30
25 years, there may be things we need to remove from

5

1 the regulations that when you're doing your
2 certification, you look at this and say, why am I
3 doing this? Does this really add to safety?

4 So those kind of inputs are what we looking for
5 as well. Let me just get started. Let me give you
6 the order we're going to do this in. I'm first
7 going to present some things; inputs that we
8 received. We'll hit the pause button for a minute
9 and give you opportunity to tell us what you would

10 like to see in terms of regulations. We'll go
11 through some more things that at our specialists
12 have been thinking about, that they believe might be a
13 good idea, and then we'll pause again, and then we'll
14 close.

15 We do have a court reporter. When it comes
16 time for audience participation, I'll give some
17 further instructions at that time, so let's get
18 started.

19 First, before I get into the outline, let me
20 introduce some of our panelists here. On the far
21 right, we have Sharon Miles. Sharon is a structures
22 specialist.

23 Jorge Castillo is our manager of regulations
24 and policy group. And Jorge's background is, of
25 course, equipment and systems. Many of you have worked

6

1 with him for years.

2 Steven Barbini, flight, and then Eric Haight,
3 propulsion. Their purpose here is not to debate
4 things, but if I say something that maybe they need
5 to clarify, I'm hoping they will jump in and say that.
6 If you bring up issues that maybe I don't understand
7 because my background is not systems for example,
8 someone else will be able to step in and understand
9 your concern. That's really what we're here to do
10 is understand, not debate.

11 (Slide 2). Okay. We're going to cover the rule-making

I notice

12 principles first. We're going to look at some NTSB
13 recommendations we received. We've also received
14 some Canadian Transportation Safety Board recommendations.

15 Transport Canada is here. Thank you for doing that.
16 From their equivalent NTSB, we received safety
17 recommendations from Transport Safety Board in
18 Canada.

19 We've got some EASA rule making. They're
20 changing their regulations. We're in a
21 harmonization effort with EASA as you're aware. If
22 they do something, it basically forces U.S.
23 manufacturers to do things as well, because they are
24 looking for the European market. And we often
25 follow suit with whatever rule making they may have

7

1 going.

2 We visited several manufacturers and we've got
3 some manufacturer's recommendations that they have
4 made. It's simply examples. They are not
5 comprehensive by any means.

6 Then we're looking for audience comments and
7 inputs. And then we're going to cover a few FAA
8 selected safety issues, what the data is showing we
9 need to do in terms of regulations.

10 (Slide 3). Okay. Very general, broad objective that I
11 think we all share, that is to reduce the rotorcraft
12 accident/incident rate, and we hope to do so
13 through developing appropriate minimum safety

14 standards. After we've gotten this input from you,
15 and the other inputs we've gotten from other forums,
16 we're going to look at the scope of the regulatory
17 changes and see what makes sense to go forward and
18 actually accomplish in the near term and in the long
19 term as well.

we

20 (Slide 4). Regulatory principles. First and foremost,
21 base our decision making on the best scientific,
22 technical data that we can obtain. We're going to
23 look at alternative forms of regulations.
24 Regulations, we all know, are not the only answer.
25 In fact, sometimes they are the worst answer.

8

1 So there's the advisory material. There are things
2 we've done interacting with industry and so forth to
3 address safety issues.

4 We going to avoid regulations that are
5 inconsistent. We working, we hope, closer than ever
6 with Flight Standards, but there are still some
7 disconnects between the operational rules and Parts
8 27 and 29. I should emphasize that. This is really
9 to gain input for Parts 27 and 29. If you have other
10 suggestions with regard to operational rules, we'll
11 certainly take those and work with the Flight
12 Standards to talk about those and see where we may
13 both need to make some changes.

14 We're going to take our regulation and impose
15 the very least burden on society. We want you folks

16 to stay in business. You're in business, we stay in
17 business. We're very passionate
18 about aviation and about aviation safety.

19 And regulations should be simple and easy to
20 understand. We, obviously, have some out there right
21 now that are not so easy to understand, and we often
22 find ourselves having to research the preambles and
23 so forth, to find out what somebody 30
24 years really meant about a particular regulation and
25 go back and look at that. So we have to do that

9

1 sometimes.

2 I think we ought to acknowledge someone else.
3 Up until about three weeks ago, Fred Stellar worked
4 for the FAA, and he now works for Bell. Fred did the
5 majority of developing this presentation. So
6 anyway, thank you Fred, appreciate all your efforts
7 and outreach efforts to the industry to get us as
8 far as we are right now.

9 (Slide 5). These are some recommendations we've seen
from
10 the NTSB lately, I would say in the past year. I
11 just wanted to share with you the types of things
12 that we see.

13 For example, there's been a recommendation that
retrofit all
14 transport category helicopters with crash resistance
15 fuel tanks.

16 We've been asked to retrofit all transport
17 helicopters with the crashworthiness seat

18 requirements. Same thing with passenger seat
19 restraints.

20 We've been asked to give hover performance
21 charts for varied wind conditions. Right now, as
22 you're aware, you look at the singular wind
23 condition for your hover charts. But they are
24 looking to us. They recommended we actually require
25 certification to cover all the various azimuths.

10

1 There are some exemptions to the flight recorder
2 regulations that we've been issuing, and they (NTSB) think
3 we should not be doing that.

4 Revise 27.33 and 29.33 regulations to require low rotor
5 RPM audible warnings even for a twin engine
6 aircraft.

7 Revise Part 27 and 29 bird strike requirements.
8 We probably have had more than our fair share, I would
9 say, of bird strikes in the last couple of years. Some of
14 those have been catastrophic, unfortunately. So there's a
15 recommendation that we look at the bird strike
16 requirements.

17 And then there's one to look at Part 27/29 to prevent
18 the unintentional movement of fuel flow control
19 levers. There have been several different instances
20 where that's happened, with the unintentional
21 movement of the fuel controls.

22 Let me go back just a minute. I don't know if
23 we have anyone here from the NTSB. As you're aware,

24 their primary mission is to establish "probable
25 cause" with respect to accidents that may occur.

11

1 They have a broader role than that. Because these
2 recommendations, I would say 90 percent, may
3 not necessarily be related to a particular cause or a
4 particular accident. It's just that when they look
5 at the accident and what happened, they will say -
6 well, if there had been a crash resistant fuel
7 system, could lives have been saved? If there had
8 been dynamic seats, could lives have been
9 saved? And if the answer is "yes," they make the
10 recommendation to the FAA that we retrofit and change
11 our regulations to actually accomplish that. So
12 it's more than just "probable cause." They look and
13 see how lives could have been saved in any particular
14 accident.

15 (Slide 6) This is the Canadian TSB safety
recommendations. The first recommendation up

16 there has to do with the loss of lubrication under
17 Part 29. 29.927(c) talks about the 30-minute loss
18 of lube test as it's commonly known, and there's a
19 "Kings X" in there - the term "extremely remote"
20 that's been misunderstood and possibly misapplied.
21 The recommendation is to simply get rid of that term
22 and require a loss of lubrication test.

23 Revise the 29.927(c) to insure that Category A
24 rotorcraft are capable of 30 minutes of continued
25 safe operation following loss of lube.

12

1 And require that all newly manufactured
2 Category A transport rotorcraft be equipped with
3 gear boxes that meet the latest requirements. The
4 30-minutes loss of lube test has probably been in
5 place for possibly maybe 10, 15 years. Before that
6 it was 15-minutes loss of lube. So there's been a change
7
8 TSB is recommending that we come up to the very latest
9 standards for all Category A rotorcraft.

and

10 Let's see. And last, retrofit existing helicopters
11 out there under some kind of phase-in period for
12 this loss of lube capability.

rule

13 (Slide 7). EASA is involved in rule making. The EASA
14 making system is much quicker than ours. We have
15 found that probably the best way to get to rule
16 making sometimes is to join them on their working
17 groups. And Sharon is on, I think, a couple of
18 those. And one of those that they are working on
19 has to do with structures. Vertical surfaces,
20 vertical fins, V-tail, winglets, and so forth. They
21 fill out the structural requirements. Dynamic
22 loading requirements need to be changed.

23 Same things with windows and cowlings and
24 fairings and so forth.

25 There was a ditching/occupant survivability

13

1 study group, probably ten years ago I would say, between
2 JAA and FAA in the industry. They came up with some

3 recommendations to improve the survivability of
4 ditching, and those are being looked at by EASA.

5 Then helicopter tail rotor failures. I honestly
6 don't know much about that, except EASA says that
7 they have an excessive amount of helicopter tail
8 rotor failures. I'm not sure exactly where they are
9 headed with that, but I notice it's on their
10 inventory of something to do.

11 Then vibration health monitoring. This is a
12 recent development. They have taken what we thought
13 was going to be an industry standard for
14 VHM, and they are turning that into an actual
15 regulation. We're not sure we're going to follow
16 suit on that. That's just to let you know that's
17 what's happening with EASA. Is that correct, Jorge?

18 MR. KELLY: Okay. I'm sure you couldn't hear
19 that, but the comment period has already closed for
20 additional comments. So look for that. There will
21 be an EASA rule with respect to VHM.

22 (Slide 8). We did a road show, if you will. We went
23 around to several manufacturers, not all of them by
24 any means. We went around to some of the major
25 helicopter manufacturers and just got their input in

14

1 simply terms of what they want and where they are. These are
2 examples. That's really important: this is not a
3 comprehensive list by any means. These are examples
4 that we got from the helicopter manufacturers about

5 what they think needs to happen.

6 29.1 has to do with the weight, number of
7 passengers in Category A and so forth, and there are
8 some apparent inconsistencies with the operational
9 rules. And the recommendation is we get that straightened
10 out between us and Flight Standards.

11 By the way, Shawn Wildman is here. Shawn's in
12 the audience, so if we have operational-type
13 questions come up, we're going to rely on Shawn to help
14 us answer those.

15 Establish SAS auto pilot rule in 27. We don't
16 have one right now. We've got one in 29.

17 Revise the cargo rule in line with current
18 operations. There are known passenger cargo
19 compartment configurations out there that are
20 flying. We don't know of any that are TC'd or STC'd,
21 or amended TC'd, except for one. So this is just to
22 please come in contact with reality here, give
23 some order, and make sure everybody is meeting the
24 same requirements with respect to passenger and cargo
25 space combined compartments.

15

1 27.397a(1).This has to do with pilot
2 forces and so forth. There's been a recommendation
3 that those forces change. I can't recall the
4 specifics of that, but anyway, there's one that
5 would change those pilot force level requirements
6 under 27.397.

7 Clarify the intent of 27 and 29.1309 to apply

8 only to electrical systems, not mechanical systems.
9 We're not so sure we agree with that. At least
10 we're putting up these recommendations that we got
11 from the manufacturers.

12 Require flight data recorders for helicopters
13 and create a rule to address self-protection systems
14 for civil aircraft. That one was a bit of a
15 surprise to us. That's quite a stretch, I guess.
16 I'm not sure exactly what that means. Maybe it
17 means chaff systems, I suppose. I see a nod from
18 Fred back there. Thank you, Fred.

19 (Slide 9). Okay. If you'd like to have comments from
you: you can comment on

20 anything you've seen up here. If you have something
21 brand new you want to offer us, that's great, too.
22 We've got microphones. We've got three microphones
23 spread across the room here. We ask you to speak
24 clearly. We put a sheet beside each of the
25 microphones there if you would sign, sign up for us.

16

1 We've got a court reporter, Rita, that's taking
2 notes fast and furious, so we need to make these
3 comments a matter of public record.

4 State your name; your organization and be sure
5 and use the sign-up sheet. Please limit your
6 comments to about five minutes. We have no idea how
7 many people will participate. This is a good turn
8 out. So limit your comments, not necessarily long
9 speeches, but long enough for us to understand

10 exactly what you're asking.

11 In terms of interactions with the panel or
12 anyone else in the audience for that matter, we
13 don't want a long debate, but we do want to know
14 if there's a difference of opinion. If someone stands
15 up and says, we should go left and you're sitting
16 there shaking your head, oh, my goodness, we should
17 go right, stand up and say that, please. We just
18 need to get the diversity of opinions that are in this
19 room to help us out. Provide business cards if you
20 have those. If not, just be sure and use the
21 sign-up sheets.

22 Anything I've forgotten anyone? Okay. Who
23 wants to step up and be first? We can draw a
24 lottery. Go ahead.

25 MR. SCOTT: Hi, my name is Ian Scott from

17

1 Brunei Shell Petroleum. I'll just leave my card
2 down here.

3 Just a quick point. It's a perennial subject,
4 I think it has been doing the rounds for a few years
5 now. There's an inconsistency between Part 29 and
6 Part 27. Currently, 29.1583 requires the flight
7 manual to contain the HV diagram within the
8 limitations section. About twenty years ago that
9 was revised in Part 27, I believe.

10 From an operational standpoint, the existing
11 JAR 3 requirements and the FAA part, Part 91(d),

12 allow alleviation from that for offshore take off
13 and landings, particularly take offs where most
14 aircraft climb vertically into the HV diagram.

15 My understanding is that in 2012, when EASA
16 rules come in for commercial air transport
17 helicopter operations, that alleviation will no
18 longer exist. So there's going to be an
19 inconsistency between the regulations and the
20 standard operating practices.

21 MR. KELLY: Did I understand you to say that
22 alleviation will no longer exist?

23 MR. SCOTT: Yes.

24 MR. KELLY: So you will have to completely avoid
25 the HV area?

18

1 MR. SCOTT: Yes.

2 MR. KELLY: When the EASA 2012 rules ...

3 MR. SCOTT: Yes. Unless the profiles, et
4 cetera, as published are able to specifically refer
5 to the HV diagram not being applicable during those
6 brief periods.

7 MR. KELLY: Do you have a specific
8 recommendation with respect to 27 and 29 that you
9 think needs to happen or is it just --

10 MR. SCOTT: Well, my understanding is that 27
11 was amended in 1984 to put the HV diagram solely
12 within the performance section, whereas at the
13 moment, in Part 29, it exists in the limitation
14 section, and also the performance section.

15 MR. KELLY: Okay.

16 MR. SCOTT: So I don't -- as it stands, most HV
17 diagrams are extremely crude and, you know, they are
18 not very specific. Sort of at high density
19 altitude, high maximum weights, there's no variables
20 involved. It's just a single diagram. It's almost
21 there just for the sake of being there, you know.
22 It really doesn't need to be in the limitation
23 section. It ought to be in the performance section.
24 And potentially, if it -- if it even needs to be in
25 the performance section, it probably would be useful

19

1 to have some additional data in there to make it a
2 more useful diagram.

3 For instance, I know the 212 from thirty years
4 ago had the ability to work out, whether the HV
5 diagram actually existed or not, for a given set of
6 parameters. It was a true performance diagram.

7 MR. KELLY: Okay. All right. Understood.
8 Thank you. Anybody else?

9 Did you need to say something, Steve? Did we
10 understand the issue?

11 MR. BARBINI: I think the folks are saying
12 91.9(d) for the assistance to fly through the HV going
13 offshore. Our offshore which will allow us to --

14 MR. KELLY: So we already have an
15 operational --

16 MR. BARBINI: Our operational will approve an

17 offshore. It's for Part 29, Cat A its limitation,
18 we have our offshore 91.9(a) permits offshore use of
19 helicopters to, I'll say, not make HV its
20 limitation. So it's the Ops side.

21 MR. KELLY: Okay.

22 MR. BARBINI: I know where you're going to, but
23 -- I don't want -- I guess for aircraft going
24 overseas.

25 MR. KELLY: Okay. Go ahead.

20

1 MR. GELTZ: Afternoon. I'm Milton Geltz from
2 Metro Aviation in Shreveport, Louisiana.

3 I have a couple things. One comment, and I
4 would like to have a copy of this, just to kind of
5 digest your slides a little bit more, but some of
6 the things you placed up there, some of the auto
7 pilot, the cockpit voice, the HUMS or the cockpit
8 data, the data recording, the HUMS, those kind of
9 things, those are actually self-policing pretty darn
10 fast right now. I mean, there's lot of products
11 coming to market. We're struggling to get those
12 products installed on aircraft. So I think there's
13 a, at least in the part 135, in the commercial
14 operator world that we see, that we operate in, that
15 that's kind of self-policing. We need some
16 assistance to keep those things moving.

17 I guess from my perspective, as a completion
18 center, STC holder and a product developer, I want
19 to know how a revision or rewrite of 27, 29 impacts

20 the level of service that you provide now or into
21 the future. I certainly do not want to see any
22 reduction in the -- that service support to the
23 public, to our needs, in, you know, in an effort to
24 go ahead and correct some of these things which, you
25 know, look relatively minor at this point in time.

21

1 It's not to say that some of the language is
2 kind of like, you know, some of the language, some
3 of the newer innovations, some of the things that
4 come along, that have come along since those rules
5 were written, need some attention in the
6 regulations, but I certainly do not want, from our
7 perspective, and I think probably from most of the
8 completion centers and the STC applicants and those
9 kind of, and those kind of efforts that the people
10 are putting forth that effort today, we don't want
11 to see you go away to do something else at the -- to
12 sacrifice what needs to be happening right now.

13 So that's -- I'd like to know how you're going
14 to address the manpower necessary to do these
15 rewrites and to get these kind of things through
16 Congress and through the public and through the
17 system.

18 MR. KELLY: Yes. There has to be a balance.
19 We've got to maintain service to customers right
20 now, and we also have to kind of look to the future.
21 And most of you might be surprised at how long we

22 spend debating internally, and then with applicants
23 as well, when we have unclear regulations. If
24 there are things we can clarify ... I mean, it seems 25
from the Issue Paper process, it seems we

22

1 keep coming back to the same issues time and time
2 and time again. Sometimes due to the unclear
3 regulations.

4 I'll give an example. 27.1309 is not written
5 for critical systems on normal category helicopters.
6 And as a result, we wind up issuing special
7 conditions, which take an extremely long time. Some
8 of you in here can attest to that. So we do need a
9 balance. We need to maintain our existing level of
10 service. By the same token, we do have folks that
11 are going to be doing rule making and policy
12 materials. So we need to let them straighten out
13 what we can as soon as we can. So anyway, there's a
14 balance to be had. I understand.

15 Kim?

16 MS. SMITH: This is Kim Smith, Rotorcraft
17 Directorate. I'm too short for this.

18 If I can help also, reference the people who do
19 rulemaking, and our policies are very different
20 that are coming in and helping some of the things
21 through our ACOs. None of the resources from our
22 ACOs or others, they will continue what they are
23 doing. The people that are doing this rulemaking
24 are going to be focused on the rulemaking, which is

25 their job. So it shouldn't have a big impact on

23

1 you.

2 MR. GELTZ: Okay. I take it -- I got that
3 recorded.

4 MS. SMITH: Yes, we do.

5 MR. GELTZ: I guess, just to kind of go along
6 with that, you know, it seems like some of the
7 things we're facing as modifiers, this might be a
8 little off subject, but we -- seems like everything
9 has to go through legal now. And I don't think we
10 ever planned for that. Maybe it happened and we
11 didn't know it was happening in the past, but I
12 mean, just over the past couple weeks, there's been
13 things held up in legal that are, that are kind of
14 putting us behind, maybe, in some of the programs
15 we're trying to do.

16 So if there's something that, you know, that we
17 need to know, that adds to the time limit that, or
18 the time frame that we need to plan for, because
19 basically, to be honest, we submit compliance plans,
20 we do those kind of things, but if there's something
21 that we are not covering that's part of your system
22 that we need to address, that that's something we
23 need to know and, of course, we can work on a local
24 level.

25 But it is, you know, we're very sensitive to

24

1 the length of time that it takes to develop, bring a

2 product to market, and you're a very large part of
3 our, of our development time and our product
4 decision and what we do. So any information we can
5 get is valued.

6 MR. KELLY: Okay. All right. Very good. If
7 you can avoid exemptions or special conditions, I'll
8 urge you to do that. If you can work within
9 existing regulations and apply those in a different
10 way by working with the Staff, that's the best way
11 to avoid the legal hassles that you sometimes run
12 into.

13 MR. GELTZ: Thank you.

14 MR. KELLY: Very good. Thank you.

15 Other comments?

16 MR. DOWNEY: Dave Downey, Bell Helicopter.

17 Two items. First one being, I think we in the
18 industry would like to see in 1309 guidance
19 material, the graded or tiered compliance similar to
20 what is in 23. So that we look at the
21 sophistication of the aircraft and the number of
22 passengers as commensurate with similar guidance
23 material that has worked very, very effectively for
24 probably the last, what, eight or nine years in Part
25 23. I think that would provide a tremendous

25

1 opportunity for, especially retrofit, because you've
2 created the impediment of basically having to meet
3 almost Part 29, if you look at some of the systems

4 the way it's being covered in terms of the guidance
5 material.

6 The second item is that we would encourage the
7 agency to look at and work with the committee that's
8 working ADS 79(c) for condition-based maintenance.
9 We have a perpetual issue around how we look at
10 our systems on board the aircraft. The FAA is
11 pushing safety management systems. Inherent in the
12 safety management systems is flight data monitoring.
13 But in order to get those systems on board the
14 aircraft, we are put in an unenviable position of
15 having to write software that is cost prohibitive.

16 There are a lot of new systems out there to
17 include up to wireless routers on aircraft that
18 could help us, but there needs to be some
19 alleviation in terms of how rigidly things are being
20 applied and what it is. It won't get on the
21 aircraft, we won't get past the hump that we're in
22 right now in terms of the accident rates and those
23 types of issues, until we're able to embrace that.

24 We would offer, the U.S. military has had HUM
25 systems onboard aircraft with millions of flight

26

1 hours, and there is no reason why that type of
2 service history could not be garnered and benefit
3 the civil public, since we're the ones who pay for
4 it as taxpayers. Thank you.

5 MR. KELLY: Thank you.

6 Okay. Any other questions? Input?

7 (No Response)

8 MR. KELLY: Since we've a moment of silence
9 here, I guess we'll proceed to the next portion.
10 Let Jorge Castillo go to the next five or six
11 slides. Maybe that will spur some more thinking in
12 terms of where we should be going with this.

13 MR. CASTILLO: This morning, one of
14 the common themes that came up several times in the
15 Meet the Regulators, is the appearance that we, the
16 FAA, have a tendency to go into some conference room
17 and just start thinking of new rules to propose and
18 promulgate, without going through a good evaluation and
19 vetting
20 process to make sure that it is the correct rule
21 and the appropriate approach to enhance safety. And
22 right now, this is an opportunity for you to play
23 the role of the regulator and say, if you had an
24 opportunity to create a new rule or modify an
25 existing rule, this is how you would do it. So we
26 want to encourage you to give us your direct, honest

27

1 feedback with the justification why you're proposing
2 that.

3 In some cases, removing some of the existing
4 regulations may be a safety improvement. Milton's
5 comment on how this is going to affect service:
6 we do expend a lot of time right now trying to
7 figure out how to address some of the verbiage
8 that's in the current rules, which were created many

the type

9 years ago. Many years ago, we did not envision installing
10 of systems that we're seeing now. The business
11 models were different, so it might have made sense,
12 But now in today's environment, they become more of
13 an impediment and we have to figure out a way to
14 work around that. And sometimes, that requires us
15 to get our legal counsel involved, because it
16 necessitates a special condition and equivalent level
17 of safety finding, and that takes a lot of time and
18 effort on our part, but we have to keep doing this
19 on a project-by-project basis.

20 So here's a chance to clean up some of that
21 material. And at the same time, look at other
22 potential candidates to enhance safety.

some

23 (Slide 11). What I'm going to go through right now is
24 the additional rules that were identified by our
25 specialists when we asked them to look at the

28

1 current regulations in their field of expertise, and
2 let us know what their recommendations would be if
3 they were to propose a rule-making activity for Part
4 27 and 29.

5 One of the observations that we've made is that
6 we're seeing a lot more approvals presented to us
7 for large carry-on equipment, for EMS
8 modifications. Isolettes that are not your typical
9 100-pound piece of equipment. But these are very,
10 very large pieces of so-called carry-on equipment

11 gets installed on rotorcraft, and that
12 introduces a lot of challenges. And it requires us
13 to coordinate with Flight Standards to make sure
14 that it's addressed not just from a certification,
15 but from an operations standpoint. So this is
16 something that may need to be looked at from a
17 regulatory perspective or maybe it's from a policy
18 or advisory material perspective.

19 Another area that was identified, and this came
20 up by - it was brought up by Larry this morning as
21 part of the NTSB recommendations. Before the
22 NTSB safety recommendation was provided to us, our
23 specialists had already identified this as something
24 that may need to be looked at. The requirement for
25 29.927 with respect to the terms "extremely remote".

29

1 What does that mean? What was the original intent
2 when that word was put in the rule, and whether that
3 still makes sense in today's rotorcraft
4 environments.

5 So going on, human factors. We're seeing a lot
6 of technology in the displays arena.
7 Highway-in-the-sky displays. Synthetic vision
8 displays. That is something that we're looking at.
9 We don't know whether this will end up being one of
10 the proposals to go to rule making, but it was
11 identified. We don't have a display rule like
12 Part 23, which is 23.1311. Maybe it's time for

13 rotorcraft to have a displays rule also, similar to
14 23. So just throwing some ideas out there.

15 27.1309, as Larry mentioned earlier, this rule
16 has a long history. Yet, it's probably one of the
17 rules that has the most RTCA industry standards,
18 advisory circular materials, and from this one
19 single rule, which not too many people understand
20 because of the way it's written, it has a lot of
21 guidance material associated with it. But it also has a
22 lot of shortcomings. For basic 27 rotorcraft, at
23 the time that this rule was first promulgated, we
24 did not envision the type of systems that we see
25 nowadays. Fly by wire, FADEC systems. Critical,

30

1 complex systems are being installed on basic
2 non-IFR, non-Cat A aircraft. And the rule as
3 written, requires us to have to address them through
4 other mechanisms, such as special conditions, which
5 take up a lot of our time and delays your projects
6 because those type of alternatives need to be
7 vetted and coordinated with other offices within the
8 FAA, which includes our legal counsel.

9 Another area that the FAA is spending a lot of
10 time and effort is in safety management systems.
11 And one of the things that we in the rotorcraft
12 community are trying to endorse and improve is our
13 data collection. As you're aware, we don't have --
14 operating hours is not a requirement for the GA
15 community to report to us. Yet we are trying to

16 come up with a less subjective process to try to
17 quantify risk. When there is a problem on an
18 aircraft that's out in service, how do we
19 determine whether the risk of not taking corrective
20 action on that problem rises to the level where we
21 need to mandate a corrective action through an air
22 worthiness directive, or maybe just issue a safety
23 alert information bulletin, which is not mandatory?
24 Or maybe just monitor the situation and determine
25 whether the risk is to the point where we don't have

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1 to engage in any type of corrective action? For us
2 to be able to do that, we need a better mechanism to
3 capture field service data and operating hours.

4 So this is something that we've identified and
5 hopefully, we'll be able to come up with ways to
6 obtain that data. I don't know if it's going to be
7 the rule making process by which we end up getting
8 that data or some other means.

9 (Slide 12). We are seeing an increase in
10 over-water operations. This is an area that has
11 been identified as a candidate. NTSB has been involved in
this area
12 also, but how can we improve the survivability of
13 the accidents that occur over water? Since this is
something that
14 we've identified, and based on your comments and feedback
15 that we get, we may end up vetting this as something
16 that we are going to present as a
17 rule-making proposal.

18 Advanced flight controls. Fly by wire, fly by
19 light, fiberoptic flight control systems are all
20 things that will be challenging for us to certify
21 with the existing rules. So if we can, we should update the
22 rules right now ... We should be doing that with the
23 hindsight that eventually these type of systems will be
certified and
24 we do have some of these right now. In the future,
25 we may be seeing fly by light flight control

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1 systems. Fly by RF, radio frequency, is another
2 potential - five, ten, fifteen years down the road.
3 So as long as the rulemaking process takes, we
4 should be looking further ahead. As Kim Smith pointed out
5 this morning, try to think ahead and see what we may
6 be facing ten, fifteen, twenty years from now.

7 Bird strike is an area that has gotten a lot of
8 NTSB visibility. As Larry mentioned, we have a team
9 within the FAA that's comprised of representatives
10 from each of the directorates looking at the requirements
that we
13 for the different product rules with respect to
14 bird strikes. There are differences and some of
15 those differences are justified. In other cases,
16 we're asked to look at the exposure for bird
17 strikes. Are we seeing an increase of bird strikes
18 or is it just because people are reporting them now
19 more so than they were in the past?

20 And also, is the bird strike requirement

21 appropriate for the types of birds that we're seeing
22 now, whether it needs to be increased as far as the
23 weight, or decreased? So, we are looking at that
24 area, and also looking at the Part 27 rule that
25 doesn't require bird strike to be complied with.

33

1 But we are seeing in some cases, some of the
2 designs may be more susceptible for adverse effects
3 by impact from an external mass, such as a bird,
4 because of the way the configuration and the way the
5 systems are designed. So we're not just looking at
6 the windshield protection for bird strike, but also
7 susceptibility of configurations of systems as they
8 get installed on the aircraft.

27

9 (Slide 13). Systems and Equipment in Appendix B, Part
10 and 29, we have the instrument flight rule
11 requirements -IFR requirements. 29.1333 is one of
12 those, what I call an antiquated rule. When it was
13 first promulgated, in that rule you'll see some very
14 prescriptive language about systems from the
15 co-pilot and the pilot not be allowed to be
16 interconnected. In the older days, that was the
17 intent because we did not have the type of
18 integration that we now have.

19 Nowadays, with the new complex,
20 state-of-the-art systems, the only way to make sure
21 that these installations are safe, you have to have allow
22 cross-monitoring in these systems. There has to be

23 monitoring between the pilot and co-pilot systems.

24 If we were to literally follow this rule, we
25 would, in essence, be approving what I would

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1 consider an unsafe installation. So this is one of
2 those rules where we have to come up with a way to
3 meet the intent of the rule. We use the equivalent level of
4 safety finding, but we need to fix that rule so that
5 we don't have to keep using these other mechanisms
6 which may delay your projects.

7 In Appendix B, VIII, there's a rule that talks
8 about pilot action, should you lose information
9 essential for continuous safe IFR flight. That rule
10 results in a lot of discussions from OEM to OEM, in IFR
11 projects. I think it's time that we
12 clarify that rule or revisit that rule to see if we
13 need to make some modifications to the rule as a
14 means to enhance safety. So we'll be looking at
15 that rule.

16 And I think, based on just our own experience
17 with that rule, that this would be one of the rules that
18 I personally would highlight as something that we
19 want to seriously look at because it does take a lot
20 of our resources just to work projects that
21 encompass compliance with that rule.

22 In the human factors area, in displays, going
23 along with the integration of flight deck displays
24 within IFR aircraft, we are seeing a lot of
25 innovation in the way the flight decks are being

1 displayed. A lot of displays nowadays, have the
2 ability to revert to secondary, tertiary pages;
3 displaying all sorts of information. Questions come
4 up on the -- on how far can a display be from the
5 pilot's primary view. Impact on compressed displays,
trending information and so forth. The deselection of information,
7 compressing information on the displays. And this
8 is something that comes up from project to project.
9 It's time that we look at this display issue and
10 possibly tie this with a new rotorcraft 1311 type
11 rule for displays.

12 In the area of icing, recently we have done
13 quite a few certifications of rotorcraft for flight
14 into known icing. There's been a lot of research.
15 Part 25 community has benefited from the research
16 that's been done so that they can come up with their
17 guidance standards and so forth.

18 We in the rotorcraft community are trying to
19 catch up with the Part 25 community. And Eric
20 Haight, on my left, he's very involved in trying to
21 get that activity coordinated amongst all the
22 various groups that are out there looking and all
23 the applicants looking at this issue, so we may
24 undertake this as one of our rule-making proposals.

25 (Slide 14). Destroyed aircraft. As many of you may be

1 aware, you know, this is an ongoing issue for some
2 time. This is our opportunity to revisit and see

3 what we can do to address some of the challenges
4 that we've had to face over the years with respect
5 to destroyed aircraft that somehow seem to resurrect
6 time after time from just using the aircraft data
7 plate. So I would envision we would get some
8 feedback in this area.

9 And 133.45, even though we said this is for
10 certification of Part 27/29, this is an example where
11 there's an incompatibility between the cert rules
12 and operational rules with respect to human external
13 cargo. The word "transport" is clearly stated in the
14 Ops Rules. But Part 27 aircraft that are Cat A
15 approved are, in essence, complying with the
16 transport rules for Category A. So that word right
17 there prohibits us from considering normal category,
18 i.e., Part 27 aircraft that meet the Part 29
19 transport category regulations.

20 So these are some additional examples of
21 rule-making candidates that we've identified.
22 Hopefully, you've been able to identify other
23 areas that we haven't identified, or things that you
24 agree that we've already identified or disagreed
25 with. We'd like to hear from you. And this is not

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1 the only way we're going to receive input from you.
2 We're going to provide you e-mails so that you can
3 provide us some additional inputs that you might
4 have when you go back to your offices. But right

5 now, we're going to open up the floor for some
6 additional comments, recommendations.

7 MR. KELLY: Second chance.

8 MR. BARBINI: Wayne Barbini, Certification
9 Consultants.

10 Jorge, I'm still unclear where you're going to propose
11 on the revised rules for birth strike protection.
12 Are you talking about a larger bird, a smaller bird
13 or what? On Chart 12.

14 MR. CASTILLO: Yeah. We're not -- we haven't
15 endorsed any specific path. What we are doing is
16 looking at just the exposure, bird strikes, whether
17 we're seeing an increase or has the threat increased, has
18 it gotten larger from a bird size. Are the testing
requirements adequate
19 versus the actual bird strikes that we know about.
20 Looking at other mitigations, reduce airspeed.

21 We're not endorsing any one approach. It's
22 just identify something that may need to be looked
23 at and see if it gets identified as a rule making
24 proposal.

25 MR. BARBINI: Okay. Thank you.

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1 MR. KELLY: Wayne, if I could just add one
2 thing to that.

3 There are a couple things. There's the Part 29
4 portion of this, where we've had fatal accidents due
5 to bird strike on aircraft that had modified
6 windows. Nonetheless, the best they can tell, the

7 particular bird probably was larger than what the
8 current requirements specify. That's one issue.

9 The second issue is that there have been other
10 events on Part 27 and 29 aircraft, where the
11 aircraft has been struck, not necessarily
12 penetrating the windshield, but struck and the
13 throttle controls have moved. So there's another
14 issue to be concerned about.

15 So there are a couple things we're looking at
16 there. And the general question about should we
17 have a bird strike requirement in Part 27 at all.
18 And I think we frequently see bird strike and
19 precautionary landings for Part 27 aircraft.

20 So there are several things stirring around
21 that bird strike issue that's being debated at a
22 number of different levels, just to let you know.

23 I saw some other folks headed down here. Yes.
24 Please.

25 MR. DEVITT: Dan Devitt from American

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1 Eurocopter.

2 Jorge, I was surprised to see one topic that's
3 near and dear to my heart, it wasn't up in your
4 rule-making consideration. The SAIB that was issued
5 by the FAA last year concerning tactical radios.

6 Have you guys progressed any on that? Where do
7 you stand? Do you envision that there will be a
8 change in the rules that come out with that, because
9 right now, we're still struggling with exactly how

10 to uniformly apply that SAIB?

11 MR. CASTILLO: Excellent question. This is
12 where I'm going to be looking at you as the
13 regulator to provide us with your recommendations --

14 (Laughter)

15 MR. DEVITT: I know.

16 MR. CASTILLO: -- As a regulator for today, give
17 us your recommendations on how you think we can
18 maybe modify the existing 1431 rule. If I'm not
19 mistaken on the actual rule that talks about
20 interference of radio installations with required
21 equipment.

22 So, I haven't identified that rule since our
specialists
23 didn't identify it, but it is an area that we do
24 expend a lot of time and effort. It came up this
25 morning in the Meet the Regulators. So I'll be

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1 looking forward to your recommendations on how to
2 fix that one.

3 MR. DEVITT: Thank you.

4 (Laughter)

5 MR. KELLY: Anyone else?

6 MR. GELTZ: Here I come again. Just to, kind
7 of a little follow up on one of the things David was
8 so strong about. This information gathering thing.
9 And this may be completely off base, completely out
10 of, out of the realm of possibility. But we're
11 talking, it seems like we're considering these days,

12 the rules are considering or not considering any
13 differentiation between required equipment and
14 optional equipment, if I want to put it a different
15 way.

16 In other words, a lot of these, you know, I am
17 neck deep in data management, data gathering, you
18 know. Folklore type data, all those kind of things
19 we're doing as a voluntary thing for our own
20 operation and our own aircraft and we have corporate
21 operators, you know, private operators that want to
22 have those kind of systems installed that are
23 clearly not regulatory now.

24 And I kind of thought of, I was sitting here
25 thinking about the differentiation between light

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1 sport and amateur-built aircraft, the lighter rules,
2 so to speak, or the more accelerated approval
3 process for some of those kind of things and that
4 equipment, is there any thought, would there be any
5 possibility of splitting, kind of making a line
6 between, you know, the actual required. Certainly,
7 I realize the necessity to address flight
8 information, whether it's a VFR aircraft very, very
9 carefully. But for the things that enhance the
10 operation aircraft, there might be
11 customer-preferred options, kind of splitting that
12 out some way, either by loosening up the field
13 approval or maybe setting up a different venue to

14 get those kind of things approved rather than tying
15 up the regulators that are dealing with engines and
16 transmissions and safety of flight and all these
17 other things.

18 Is there any -- does that -- could that get any
19 legs or could it get any traction or is there any
20 value to that?

21 MS. SMITH: First --

22 MR. GELTZ: Milton Geltz.

23 MS. SMITH: He needs to go on record for the
24 court reporter.

25 MR. CASTILLO: I think I counted, like, three

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1 or four items there.

2 MR. GELTZ: Sorry.

3 MR. CASTILLO: Let me see if I can address.
4 The first one, I believe you were addressing non-
5 required safety-enhancing type systems.

6 MR. GELTZ: Yes.

7 MR. CASTILLO: That's one aspect. We are
8 developing an advisory circular material for
9 non-required safety enhancing systems.

10 On defining the expectations from a
11 certification standpoint, that addresses just the
12 bare minimum requirements for getting that equipment
13 approved. Recognizing that there is a benefit, from
14 a safety standpoint, to get that equipment
15 installed; therefore, we want to promote that
16 equipment.

17 And by having an AC material, there will be no
18 question if you go to AC one, two or three, what the
19 expectations are. And from an applicant, you'll
20 know exactly what's expected of you.

21 We hear time after time that you're being asked
22 to do more on the same type of system and one issue
23 versus another issue. So not to point fingers at
24 the ACO. We provide this type of guidance so
25 everybody understands for this type of equipment

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1 what the expectations are.

2 So we are working on that. We are working on
3 an AC to help standardize the evaluation for
4 tactical radio installations. Again, they are not
5 required, but there's a potential for interference
6 with other required systems. We're working on that
7 AC material, also.

8 Earlier on, Dave Downey made the comment about
9 the Part 23 class approach; whether that is
10 something that we are looking at or considering.
11 And I like the latter part about addressing
12 retrofitting aircraft that are already certified.
13 But if you start looking at installing some of these
14 later systems, it becomes a challenge to integrate
15 the new state-of-the-art systems with aircraft that
16 are not equipped to integrate easily with the new
17 technology.

18 We have thought of how best to promote those

19 types of installations as opposed to changing the
20 standard for the new TC aircraft so there might be
21 something that we can work with. Don't know how
22 that would be, but this is certainly an area that we
23 will need your help to determine how best to promote
24 the installation of safety-enhancing equipment that
25 is required in some cases, but in older

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1 certificated, even CAR certificated rotorcraft.

2 MR. GELTZ: Okay.

3 MR. CASTILLO: Is there one -- I think I
4 addressed three right there.

5 MR. GELTZ: I think you hit all three. I had
6 one other kind of question, comment; offer of help.

7 This neonatal transport thing has gotten some,
8 a lot of vision lately when we apply for amendments
9 to STCs, our new STCs and I know the frustration of
10 dealing or having to answer the -- I was glad to
11 hear that you said there's working of Flight
12 Standards on how these things are going to be used,
13 how they are going to be secured, how they are going
14 to be loaded in the aircraft.

15 And there also is a certification issue with
16 that, the basic certification through STC or TC or
17 however you get that equipment in. But this is an
18 offer of support, since we wear both hats in those
19 arenas. I offer the support of at least our group,
20 and the most of the air medical industry I think
21 would support that as, let's make sure we don't do

22 the wrong thing. We certainly want to do the right
23 thing and stay in -- and keep everybody safe and
24 make sure we get to still operate. So it's just an
25 offer of support.

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1 MR. CASTILLO: Okay. Thanks.

2 MR. KELLY: Just wanted to comment about the
3 neonatal isolettes. I think we approached HAI a
4 couple years ago and basically asked for help
5 because we don't have any standards per se for those
6 neonatal isolettes. It would be great if we had a
7 Good Housekeeping seal or something on those where
8 we would be able to put a placard on the lid or
9 something that said, you may install this particular
10 type, whatever that standard may be.

11 So I think we're still looking at that. Matt
12 Rigsby, thanks for the work on that, AAMS folks,
13 I'm not sure. But we would welcome some help on
14 that neonatal isolettes area.

15 MR. KELLY: Let's see. Real quickly. One
16 more.

17 MR. GELTZ: Take one more second. Actually, I
18 share the frustration with HAI. They never called
19 us. There is another group in the air medical, it's
20 AMOA, Air Medical Operators Group. And I'm the
21 chairman of the maintenance committee that was
22 recently created. So if I can be of any assistance
23 in that, to try to get these guys together, and all

24 these directors that are in that group or part of
25 that committee. So if there's anything we can do to
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1 kind of walk you through that and help you with
2 that, we'll be more than happy to do that.

3 MR. KELLY: All right. That's welcome. Thank
4 you.

5 MR. FOX: Roy Fox, Bell Helicopter.

6 Two items. One is, I'm glad to hear something
7 is finally being done on destroyed aircraft. Be
8 glad to help on that. That's been an issue for
9 years.

10 And number two, you've mentioned somewhere in
11 here, require flight hours to be reported for Part
12 91. I would suggest you do that for all Part 27 and
13 29 aircraft. Not just Part 91. We need it all
14 over. There's so many parts that -- all of them
15 need to be reported. 135 doesn't report it even now,
16 so --

17 MR. KELLY: Okay.

18 MR. FOX: -- it needs to be expanded. Thank
19 you.

20 MR. LYONS: Good afternoon. I'm Peter Lyons
21 with Aspen Avionics, and I'd just like to second the
22 suggestion that was made on the 1309 stratification.

23 Looking at the different classes of, or sizes
24 and applications, passenger carrier capability of
25 Part 27 and Part 29 platforms and application of

1 1309 as is done in the Part 23 world.

2 The Part 23 is an implemented graduation in
3 the design assurance levels so that you have an
4 appropriate, sufficient or satisfactory level of
5 design assurance based on the complexity of the
6 platform. And that has allowed very affordable
7 technology to be inserted into those cockpits, to
8 improve pilot situational awareness and reduce crew
9 workload and eliminate or reduce the pilot error
10 component of Part 23 accident rates.

11 And I'd like to encourage you guys to continue
12 to think down that path. I think it would be a very
13 good thing for the rotorcraft community, and we'd
14 like to put our voice in behind that. At the same
15 time, I'd like to encourage you to look at a more
16 progressive approach to the approved model list STC
17 process that we see in Part 23 that allows a lot of
18 reliability and credence to be given to the Part 43
19 rules on acceptable methods for installation
20 sighting and location of components and workmanship,
21 and allows more generic STC data to be created to
22 allow technology to be inserted into a large number
23 of platforms without a significant amount of
24 engineering overhead that is really non value added.
25 It is creating an installation drawing that our

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1 installers and our repair stations are more than
2 capable of determining appropriate wire routing

3 locations, clamping in accordance with generic
4 installation guidance and not specific locations.
5 That has been very successful in Part 23 as well, in
6 allowing this technology to reduce pilot workload
7 and proliferate in that community.

8 MR. KELLY: Thank you. You might want to know
9 that we are under -- in the course of a major
10 revision to our AC material. Some of the things
11 I've heard today may be more appropriate for AC
12 material as compared to rule making, but we're
13 taking notes on those. So thank you for that.

14 Any other comments? Yes, please.

15 MR. TODD: Just a quick question. I'm Alan
16 Todd --

17 MR. KELLY: Thank you.

18 MR. TODD: -- from American Eurocopter.

19 Regarding the Part 133, human external cargo
20 issue with the word "transport." Is there a waiver
21 procedure whereby you can do that at this time prior
22 to the change being made?

23 MR. KELLY: You would have to -- Shawn may be
24 able to answer that. You'll need to process an exception
25 to 135.45(e), I believe. Is that correct?

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1 MR. WILDMAN: That I'm aware of right now, you
2 have to have an op spec to do Class E operations, an
3 external load, and I don't think that's waivable.

4 UNIDENTIFIED SPEAKER: It is.

5 MR. WILDMAN: They are saying it is waivable.

6 MR. KELLY: Let's -- you know, we pride
7 ourselves on having 100% harmonization with EASA
8 counterpart regulations, 27 and 29. There are a
9 couple exceptions to that. One has to do with
10 retroactive shoulder harness regulations, I believe.
11 The other one is in this area of human external
12 cargo. We both tried to move forward with human
13 external cargo with both 27 and 29. JAA, at that
14 time, was successful in doing that, but we had to
15 hold back on our Part 27 regulation because there is
16 this restriction in the operational rule that limits
17 it to transport.

18 So that's one of our disharmonized areas that
19 would be nice to straighten up, if we possibly
20 could.

21 Other comments?

22 (No Response)

23 (Slide 3, Closing Remarks) MR. KELLY: All right.
Let's see if we can --

24 a couple of closing slides. You will have other
25 opportunities through e-mail to contact us. This is
50

1 just a restatement of our goal here. That is to
2 reduce accident/incidents through the responsible
3 promulgation of minimum safety standards.

4 (Slide 4). We need to define the scope of the
regulatory
5 changes that you proposed. We're going to review
6 these and do some racking and stacking in terms of

7 bucketing the key safety issues.

8 Rule making is extremely difficult now. We're
9 going to look at what we can do; what makes sense,
10 and what's the highest priorities. Sometimes the
11 highest priorities aren't necessarily the ones that
12 can get through the system due to the fact that they
13 may be more complex, but we do need to look at those
14 and prioritize the issues the best we can.

15 And where we can get something taken care of
16 with advisory materials, as I mentioned a little bit
17 earlier, that's the easiest way for us to do it.
18 And then we would propose rule making through the
19 FAA system, which is currently very, very clogged.
20 But as I said, we do need to take these notes and
21 get the industry input and at least have our list
22 ready to go.

23 (Slide 5). These are the folks you can contact:
Myself,
24 Larry Kelly, Jorge Castillo, Tyrone Millard -- who
25 isn't here with us today. He's our lead on this

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1 project now, so you can e-mail Tyrone as well.

2 We've got a number of specialists up here. I
3 guess we're finished the formal part of the
4 presentation. But if you have comments and you want
5 to get a one-on-one with some of our specialists,
6 that would be great. I need to offer you an
7 opportunity -- Shawn, do you have anything you want
8 to add from your operations area? Transport Canada comments
9 here?

10 Andy, do you have anything you'd like to say?

11 ANDY (Stirzaker, Transport Canada): I'm okay. Thanks.

12 MR. KELLY: Very good. Okay. Last chance for

13 this forum at least. Any comments?

14 Yes, please. One more.

15 MR. SCOTT: Ian Scott from Brunei Shell again.

16 Just referring to the 29.927 "extremely remote"

17 clause, I'm pretty familiar with the accident

18 report. And as a matter of fact, I fly that type of

19 aircraft that was involved in that accident. And

20 although I think it's obviously desirable to

21 maintain that 30-minute run dry capability, it may

22 well be that it isn't particularly viable with some

23 of the larger types. I think probably what would be

24 more useful to address, rather than just removing

25 that extremely remote clause, which could be seen as

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1 something of a knee-jerk reaction to a single

2 accident. Probably the real failure in there was the

3 robustness of the Failure Mode and Effects Analysis

4 of the gear box in that case, because in hindsight,

5 it's blindingly obvious that failure mode would

6 result in loss of lubrication and the accident.

7 So perhaps, what needs to be done more is

8 insure that the derivation of that extremely remote

9 clause is more robust rather than just removing it.

10 If that makes sense.

11 MR. KELLY: Yes, I understand your comment. I

12 think we've taken a look at that and it's difficult.
13 That's a very controversial regulation at this time,
14 as you can understand.

15 MR. SCOTT: Yes, I understand that.

16 MR. KELLY: And I would -- it's fair to say
17 that our opinion, EASA's opinion, we're not exactly
18 on the same page. We're awfully close but not
19 exactly on the same page. We do now have a formal
20 recommendation that we actually remove that term,
21 because it is confusing. And depending on who you
22 ask, it will be a different interpretation for what
23 that means.

24 MR. SCOTT: Yes, I understand it's a very
25 emotional subject. As I do say, I do actually fly that

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1 type. And I've been involved in gear box-related
2 incidents personally that have resulted in this in
3 the past. And as I say, I think if the Failure Mode and
4 Effects Analysis had been done more rigorously and
5 perhaps if also, the more information had been put
6 into the flight manual relating to the actual
7 testing that had been carried out, which in fact, is
8 in the manual now, that perhaps would have
9 mitigated, you know, some of these circumstances.

10 Because it may well be that as we start to move
11 towards the 30,000, 35, 40,000 pound aircraft, the
12 technical complexity that's going to require to
13 insure that 30-minute run dry capability is going to
14 be not economically viable. Because you're going to

15 start to get involved with either oversized gear
16 boxes or complex additional systems like glycol
17 injection and things like that.

18 MR. KELLY: I will say, that whether or not we
19 end up within the rule-making process or not, this
20 is very high on our priority for the next edition of
21 our AC material. So for the AC material that will
22 come out in probably a year, I would guess, be
23 looking for new AC material on that particular
24 subject.

25 MR. SCOTT: Sure.

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1 MR. KELLY: Okay?

2 MR. SCOTT: Thanks.

3 MR. KELLY: Thank you.

4 I have nothing else. Anybody have last-minute
5 thoughts? Last chance.

6 All right. Thank you so much for coming.
7 We're going to take this input. And you can be
8 sure and leave your business cards if you were a
9 speaker. And we'll wrap this up and give you the
10 results at a later time and let you know what we're
11 going to do with this. Thank you very much.
12 Appreciate it.

13 (Meeting concluded at 2:10 p.m.)

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1 CERTIFICATE OF REPORTER

2 STATE OF FLORIDA:

3 COUNTY OF ORANGE:

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5 I, RITA G. MEYER, RDR, CRR, CBC, CCP, do hereby
6 certify that I was authorized to and did stenographically
7 report the foregoing proceedings and that the foregoing
8 transcript is a true and correct record of my
9 stenographic notes.

10 I FURTHER CERTIFY that I am not a relative,
11 employee, attorney or counsel of any of the parties, nor
12 am I a relative or employee of any of the parties,
13 attorneys or counsel connected with the action, nor am I
14 financially interested in the outcome of the action.

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DATED this 19th day of March, 2011.

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21 RITA G. MEYER, RDR, CRR, CBC, CCP

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