

1 DEFENSE ACQUISITION PERFORMANCE ASSESSMENT PROJECT

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5 ACQUISITION PERSPECTIVES FROM INDUSTRY

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9 PUBLIC MEETING

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12 WEDNESDAY

13 AUGUST 17, 2005

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17 The meeting convened at 1:15 p.m. in the 4th
18 Floor Conference Room, 1560 Wilson Boulevard, Suite
19 400, Arlington, Virginia, Ron Kadish, Chairperson,
20 presiding.

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<p>1 C-O-N-T-E-N-T-S</p> <p>2</p> <p>3 Open Discussion 3</p> <p>4 General Dynamics, Michael J. Mancuso 27</p> <p>5 Lockheed Martin Corporation, 58</p> <p>6 Chris Kubasik and Ralph Heath</p> <p>7 Raytheon, Ed Franklin 96</p> <p>8 Northrop Grumman, Ronald D. Sugar 123</p> <p>9 Boeing, Jim Albaugh 164</p> <p>10 Chairman and Panel Wrap-Up. 183</p> <p>11</p> <p>12</p> <p>13 PRESENT:</p> <p>14</p> <p>15 RON KADISH Chairperson</p> <p>16 DR. LINDA BRANDT</p> <p>17 EILEEN GIGLIO</p> <p>18 RICHARD HAWLEY</p> <p>19 ALFRED HUTCHINS</p> <p>20 DON KOZLOWSKI</p> <p>21 DAVID PATTERSON</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p>1 CHAIRPERSON KADISH: Good afternoon</p> <p>2 everybody. Today's session is focused on discussing</p> <p>3 these issues with industry representatives.</p> <p>4 Last time we met in open session, we</p> <p>5 talked to the NDIA. We had representatives from L3</p> <p>6 Communications and BAE Systems. Am I missing anybody?</p> <p>7 I don't think so.</p> <p>8 PARTICIPANT: And the NDIA?</p> <p>9 CHAIRPERSON KADISH: The NDIA. And today</p> <p>10 we'll continue with -- our agenda includes General</p> <p>11 Dynamics with Mike Mancuso, the CFO of that company.</p> <p>12 We have Lockheed Martin. We have Raytheon and</p> <p>13 Northrop Grumman scheduled along with Boeing. And we</p> <p>14 will be going, because of the scheduling of all these</p> <p>15 folks, until at least 7:15 tonight, maybe later, which</p> <p>16 makes it for an interesting afternoon.</p> <p>17 So Ron Sugar from Northrop will be joining</p> <p>18 us by telephone, is that right?</p> <p>19 PARTICIPANT: That's correct. He's in</p> <p>20 California.</p> <p>21 CHAIRPERSON KADISH: The rest will be</p> <p>22 joining us here in person.</p> <p>23 The objective of this is to get a view</p> <p>24 from industry as to what the problems they see in</p> <p>25 these areas and to harvest some information from them</p>
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<p>1 P-R-O-C-E-E-D-I-N-G-S</p> <p>2 1:24 p.m.</p> <p>3 MR. PATTERSON: I'm Dave Patterson and</p> <p>4 while we're waiting for some of our members to arrive</p> <p>5 -- I guess it's easier to get here at seven in the</p> <p>6 morning than it is at 1:15. And we'll cut them some</p> <p>7 slack. They're in traffic.</p> <p>8 But I think it would be a good idea for us</p> <p>9 to get started. And as we have done in the past, we</p> <p>10 have kind of explained what we're all about, why we're</p> <p>11 doing this.</p> <p>12 And essentially this is as a consequence</p> <p>13 of a tasking by the Deputy Secretary of Defense --</p> <p>14 Acting Deputy Secretary of Defense, Gordon England.</p> <p>15 And it was his desire that an independent panel that</p> <p>16 is established under the Federal Advisory Commission</p> <p>17 Act, the FACA Act, look at the acquisition system and</p> <p>18 processes. And as he put it, every aspect.</p> <p>19 And so that's the undertaking that we have</p> <p>20 before us. I'm Dave Patterson. And I'm the Director</p> <p>21 of what we refer to as the Defense Acquisition</p> <p>22 Performance Assessment Project.</p> <p>23 And with that as an introduction, what I'd</p> <p>24 like to do is to turn the remainder of this opening</p> <p>25 session over to our Chairman, Ron Kadish.</p>	<p>1 through their statements as well as any questions</p> <p>2 afterwards. So each one has an hour, which I would</p> <p>3 expect the first 30 minutes to be some sort of</p> <p>4 statement and then the rest questions from the panel.</p> <p>5 So that's the afternoon. To begin with,</p> <p>6 we'd like to discuss in open session some of the</p> <p>7 issues that we're facing potentially and start off</p> <p>8 with taking questions from anyone who is here in the</p> <p>9 room about the process we're using or any of the</p> <p>10 issues related to the panel. So we'll set aside a few</p> <p>11 minutes for that.</p> <p>12 MR. KAPOWSKI: (Speaking from unmiked</p> <p>13 location.) I have one general -- can you, kind of as</p> <p>14 clearly as you can, delineate how your effort is</p> <p>15 different than the Packard Commission -- and a year</p> <p>16 from now into it, where might -- recommendations?</p> <p>17 CHAIRPERSON KADISH: Tony, that's a great</p> <p>18 question. And let me try to give you the simple</p> <p>19 answer.</p> <p>20 And I gave this briefing last week. And</p> <p>21 I was going to also discuss it again today. But it</p> <p>22 plays into your question. What's difference about our</p> <p>23 approach and what might be different a year from now</p> <p>24 than what other efforts along these lines might have</p> <p>25 produced?</p>

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1 Now I don't know this is going to happen
 2 but this is the way we're approaching the problem. If
 3 you look at the Department's management framework, it
 4 has three major processes involved in the train,
 5 organize, and equip activity. You've got the
 6 requirements process. You've got the acquisition
 7 process. And then you've got the budgeting and
 8 programming process.

9 The intersection of these things create a
 10 successful effort in terms of all the things the
 11 Department does. Now what has happened, and a way to
 12 look at this, is that we have lost confidence in one
 13 of these circles, Venn diagrams, the acquisition
 14 system.

15 If you look at these as a set of gears,
 16 they may not be meshing very well in the process. And
 17 out of sync with what we need to do. So this is the
 18 view of the world that says here is how it should work
 19 in an idealistic sense, all these circles are equal.
 20 I'm not sure they are, in fact, in terms of the
 21 process themselves and the weight that they bring to
 22 the effort.

23 So I would make a distinction here on the
 24 next chart. We are dealing in a world where
 25 acquisition definitions might be useful to understand.

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1 And the simplest difference, it's a little bit trite
 2 but there is a difference between Big A acquisition
 3 and Little A acquisition.

4 The Big A acquisition includes those three
 5 circles process going all the way from the time it's
 6 a concept to the time you put it in the bone yard. If
 7 you look at Little A, the acquisition system, it
 8 includes things like the contracts, the engineering,
 9 the delivery of the product.

10 Now the important issue here, Tony, to
 11 answer your question is that to the best of our
 12 knowledge, previous efforts along this line have dealt
 13 with only Little A, only Little A, with tangential
 14 recommendations in other areas.

15 But the Packard Commission, for instance,
 16 in the Little A area, set up a very strong acquisition
 17 executive system. It's SAE to PEO to PM. And to some
 18 degree, for example, that has isolated the
 19 requirements people from the acquisition system. So
 20 it pulled apart that Venn diagram a little bit.

21 So our focus is on not only the Little A
 22 but the Big A. And that's in concert with Secretary
 23 England's letter as well. So what's different is that
 24 we're looking much broader for solutions to these
 25 problems than people have looked in the past by

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1 concentrating on the larger acquisition process that
 2 may not traditionally have been looked at before.

3 Next chart. And so if you take that view,
 4 Little A can only be effective if all these others
 5 parts are working in synchronization with them. Okay?
 6 So the requirements, the funding, the technology being
 7 mature, all play into these issues. And, of course,
 8 those are the kinds of criticisms that you hear from
 9 the critics and the oversight process in general.

10 So that's the most straightforward way we
 11 can answer the question. Now we're doing some other
 12 things differently in methodology. I don't think that
 13 is as important as this particular issue.

14 Does anybody have anything to add?
 15 MR. MOK: May I make a comment? I think
 16 the three circles that you have there, one the PBD, ES
 17 and the capability, and the acquisition. The Little
 18 A kind of assumes a static or stable environment. So
 19 the other two circles, the PBD and ES and the
 20 capability circle, the assumption is that they don't
 21 move.

22 CHAIRPERSON KADISH: That's right.
 23 MR. MOK: In reality, they're shifting,
 24 they're changing.
 25 CHAIRPERSON KADISH: That's correct.

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1 MR. MOK: So, you know, I'd kind of like
 2 to take the concept a step further is that they advise
 3 the issue, as the two other circles shift and moves,
 4 then, you know, the acquisition circle is kind of out
 5 of sync. And I think, you know, we kind of live in a
 6 dynamic world and that, you know, we have to assume
 7 that those circles will shift.

8 And the acquisition piece may need to be
 9 structured in such a way that is flexible enough and
 10 can engage those changes in a way that will actually
 11 welcome those changes rather than, you know, as a
 12 reason for not being able to make things happen.

13 I just want to take that, you know, Little
 14 A and the Big A a step further. And what happens, you
 15 take a Big A system, you kind of have different pieces
 16 that shift. And if the structure, the process, that
 17 the infrastructure can be built in such a way that it
 18 is modular and flexible, I think that would to a large
 19 extent accommodate the changes in acquisition.

20 I think in the future, you're going to see
 21 more changes than less changes.

22 MR. PATTERSON: Would you identify
 23 yourself when --
 24 MR. MOK: Oh, I'm sorry. I'm Joe Mok.
 25 And I have a company, a consulting company. I used to

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<p>1 work for the Army in the civilian sector --</p> <p>2 MR. PATTERSON: Okay.</p> <p>3 MR. MOK: -- in the acquisition area.</p> <p>4 MR. PATTERSON: Thank you.</p> <p>5 MR. MOK: I retired three years ago and</p> <p>6 started a consulting company.</p> <p>7 CHAIRPERSON KADISH: And Tony Kapowski was</p> <p>8 our first questioner.</p> <p>9 MR. KAPOWSKI: Can I ask a follow up?</p> <p>10 CHAIRPERSON KADISH: Sure.</p> <p>11 MR. KAPOWSKI: Are there any systems you</p> <p>12 are using as models of effective acquisition or</p> <p>13 ineffective acquisition as kind of a term you can get</p> <p>14 your arms around? I'm thinking one the C-17 possibly</p> <p>15 because you, Mr. Kozlowski, had issues with to fix the</p> <p>16 system basically?</p> <p>17 CHAIRPERSON KADISH: At this point, I</p> <p>18 would answer that by saying no. The trouble with</p> <p>19 models is that -- or examples of these types of things</p> <p>20 is that they are very tailored to the environment and</p> <p>21 the time frame that they are put in. And these</p> <p>22 systems take on quite a long time frame.</p> <p>23 It takes, for instance the C-17 program</p> <p>24 that you mentioned, the C-17 program what four or five</p> <p>25 years before even Don and I got involved, was an</p>	<p>1 I started out in this trying to see if there were a</p> <p>2 couple of model programs that you could hold up as a</p> <p>3 good example. And I haven't found one yet. That</p> <p>4 doesn't mean that all programs are bad.</p> <p>5 What it really means is the following.</p> <p>6 Even if you find somebody who came in on budget and on</p> <p>7 schedule, as you start digging into it, you'll find</p> <p>8 some degree of trauma in that program. Perhaps</p> <p>9 somebody wanted the requirement to be tighter. He</p> <p>10 wanted more. Somebody else wanted it to be cheaper</p> <p>11 yet. Somebody else wanted it faster. I haven't found</p> <p>12 a human being that doesn't want more cheaper and</p> <p>13 faster, et cetera.</p> <p>14 So there is a degree of excellence that we</p> <p>15 all strive for. You always want more. Ron says that</p> <p>16 the problems existed back to the Civil War. Lately</p> <p>17 I've been reading a lot of history about George</p> <p>18 Washington and those guys.</p> <p>19 And the best procurement system devised in</p> <p>20 those days -- and George had his problems -- is when</p> <p>21 Congress gave George the money and he appropriated</p> <p>22 whatever he needed out in the field on his own. He</p> <p>23 didn't really have an acquisition system backing him</p> <p>24 up. And things did not go easy in those days. You</p> <p>25 know the problems were more fundamental. It was a</p>
Page 11	Page 13
<p>1 acquisition enterprise reform program, designated as</p> <p>2 such. And was one of the ones entered into the</p> <p>3 overall process of acquisition reform.</p> <p>4 It got into trouble and then there were a</p> <p>5 different set of things that we faced when we worked</p> <p>6 that program. And that's just one example.</p> <p>7 So it's very difficult to model something</p> <p>8 after any one particular effort. But what is</p> <p>9 important is that we're doing a literature search and</p> <p>10 a look at all these different efforts and trying to</p> <p>11 find the trends and the issues that surround the</p> <p>12 system in that Big A as well as the Little A that</p> <p>13 effect all of the major efforts.</p> <p>14 And, in fact, I think what we're finding</p> <p>15 in some of our literature or activities and the</p> <p>16 history that we're reading is that since World War II</p> <p>17 at least, we've had these types of problems on all --</p> <p>18 I could probably make an assertion here that I can't</p> <p>19 back up but I will anyway -- and that's about 20</p> <p>20 percent of any program set at any given time in the</p> <p>21 DoD has some sort of trouble. So it is about a 20</p> <p>22 percent factor -- somewhere between 20 and 30.</p> <p>23 MR. KOZLOWSKI: Can I respond to that now</p> <p>24 if I don't knock something over here?</p> <p>25 Your question is an interesting one, Tony.</p>	<p>1 bring-your-own-rifle kind of a war.</p> <p>2 Before I digress too far, there is always</p> <p>3 room for improvement in a system. So I don't really</p> <p>4 think we ought to -- I got off the kick of trying to</p> <p>5 find a model. Some programs come in way over budget.</p> <p>6 Some not so much. Some programs come in fast. Some</p> <p>7 come in slow.</p> <p>8 What we're looking for is a system that</p> <p>9 gives us the most efficient process whatever the heck</p> <p>10 that may be in an area where you are pushing down</p> <p>11 technology barriers and a whole bunch of unknowns.</p> <p>12 The expectations are very great but the specifics are</p> <p>13 hard to come by.</p> <p>14 When you look at all the different program</p> <p>15 histories that are floating around, it is amazing the</p> <p>16 kind of problems that they encounter. Budget</p> <p>17 stability is one. I don't have the money. I can't</p> <p>18 get there from here.</p> <p>19 We've had some discussions just recently</p> <p>20 about work. Sometimes the people aren't there. One</p> <p>21 of the demises of the C-17 was they got off to a great</p> <p>22 prototyping kind of a launch. They threw out all the</p> <p>23 regulations. In fact, a friend of mine literally</p> <p>24 threw all the regs in a 50-gallon drum and they burned</p> <p>25 them. The company regs and the government regs. And</p>

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<p>1 they started out from scratch. They created a clean 2 sheet.</p> <p>3 And then nothing happened for many years 4 after that because of funding difficulties. The 5 design team went away. And when they finally won the 6 program, you start off. You start off with what? A 7 whole new set of people, a whole new set of 8 motivations. You have to go out and develop new 9 advocates. A whole bunch of things. And that created 10 a whole unique history on the C-17 program.</p> <p>11 So rather than looking for scapegoats 12 where we can throw blame or ideal cases, I don't think 13 they exist. What we're looking for is a better way to 14 get the job done. And put the best we can in the 15 hands of the war fighter.</p> <p>16 And when you look at all the Big A, Little 17 A spectrum, it's a tough problem. You've got to 18 temper an awful lot of appetites in that process. So 19 don't try to look for an ideal solution. I don't know 20 that there is a good example out there.</p> <p>21 MR. MOSES: This is Tom Moses, Light Safe 22 International. So you mentioned we're looking for a 23 more efficient system. Does this panel think it is 24 important to identify that? And if so, what kind of 25 metric would you say you would use to say this system</p>	<p>1 cost, schedule, and performance than something we're 2 pushing the state-of-the-art on but not that hard. So 3 that's one way of looking at it.</p> <p>4 Another way of looking at it is to expand 5 the set of metrics that we look at for the system. We 6 tend to measure cost, schedule, and performance on 7 programs. We don't tend to measure the process that 8 those programs go through. The overhead, if you will. 9 So that's another way of looking at it.</p> <p>10 So the answer to your question is there's 11 a set of things we need to discuss and look at without 12 any conclusions being made. But we know that's an 13 issue. And there are different ways of look at it. 14 I hope that helps.</p> <p>15 MR. KOZLOWSKI: All of us in this business 16 are here to provide the war fighter with what he needs 17 to get the job done. And there isn't a taxpayer 18 around that I think would disagree with me that they 19 want the best for their troops so that they can win 20 and defend our freedoms. So you can take the cost, 21 schedule, performance issues and put it in the light 22 of what is happening in a combat theater. What's the 23 cost? What's the schedule issue? What's the timing 24 issue? What's the performance issue? 25 And any time there is a deficiency, who</p>
<p>Page 15</p> <p>1 works better than it used to?</p> <p>2 I mean how will we know we're there? I 3 mean obviously you are doing this because something 4 went wrong to begin with. Is it all about cost and 5 schedule? How would you know your recommendations 6 have been effective?</p> <p>7 CHAIRPERSON KADISH: Well, there's a part 8 of the discussions that we're going to have to spend 9 a lot more time on on different ways of measuring 10 success. We have the tried and true cost schedule and 11 performance. But those things might mean different 12 things, for instance, if you have different categories 13 of programs.</p> <p>14 Today, for instance, the way we categorize 15 programs is by dollar value projected. You are an A 16 Cat. 1 program if you spend what -- 350 million 17 dollars in R&D funds. That's the only criteria that 18 I am aware of. And there is some judgment that could 19 be made by the leadership to put something on the list 20 that doesn't meet that criteria.</p> <p>21 So one way of looking at the metrics might 22 be to segregate what they are applied to. And, for 23 instance, breakthrough technology and program 24 activities of that nature that changes the game for 25 the war fighter might have a different standard in</p>	<p>Page 17</p> <p>1 failed? You know you'd love to have a force that is 2 well equipped to the point where they are invincible, 3 let's say, whatever that is to you. But we all deal 4 in today's banking economics. It's the calendar. 5 It's the dollars. And it's the technical spec.</p> <p>6 But if you could get something there 7 sooner and maybe not have as much of a spec and it 8 still worked, that would be better. How do you judge 9 that? You make decisions today that will effect the 10 posture of somebody fighting a war a couple of years 11 down the pike. It's a very difficult process.</p> <p>12 So we deal in the things that we can deal 13 with in terms of metrics. But we've got to somehow -- 14 and I don't know how to do this -- measure it in how 15 well are we equipping, manning, training, and all that 16 sort of stuff with our forces. And perhaps Dick can 17 speak to that much better than I can.</p> <p>18 MR. HAWLEY: Well, I was just going to add 19 a thought on this metrics issue that, of course, we 20 are driven by cost, schedule, and performance. I mean 21 that's where all the criticism comes from is programs 22 that don't live up to expectations in one of those 23 three metrics.</p> <p>24 One of the things I think that we're 25 struggling with and the DoD has to struggle with is</p>

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<p style="text-align: right;">Page 18</p> <p>1 what are those metrics in relation to? They are in 2 relation to some expectation that was established 3 early in the program's life. And it seems clear to 4 the information that we've gathered so far that those 5 expectations are often the problem, at least as much 6 as the actual execution of the program. 7 We set these expectations very 8 optimistically and so part of the problem is not just 9 executing to the advertised cost, schedule, and 10 performance goals but setting appropriate goals to 11 begin with. And I think that is an area where we'll 12 have to address. So perhaps another metric is the 13 quality of those initial estimates of cost, schedule, 14 and performance. 15 CHAIRPERSON KADISH: Anybody else? 16 PARTICIPANT: You bring up, you know, the 17 fact you've got three circles there, you know, which 18 kind of what I used to refer to as the three-legged 19 stool and the relationships to them. And we talk 20 about collecting all the metrics on acquisition, you 21 know, which is really most of the time in the Little 22 A area. 23 You know maybe we need to think about how 24 do we collect metrics relative to requirements in 25 budgeting and how those metrics then fit with the</p>	<p style="text-align: right;">Page 20</p> <p>1 elements of the Big A, the things that come after the 2 Little A, like operations -- operate, sustain, and so 3 forth, you would think -- I think that the cost, 4 schedule, and performance metrics tend to get 5 identified with contract bill of required test to 6 produce. 7 But perhaps there is a feedback loop from 8 operate, sustain, upgrade that needs to come back to 9 Little A so that there is some learning there in going 10 through that process. So I would hope that perhaps 11 you would have an input from the maintenance function, 12 you know, which ends up with how often it breaks and 13 how difficult it is to repair and the huge logistics 14 footprints that has to go along with deploying forces 15 which slow down and so forth and so on that might 16 influence that Little A process and indeed the 17 requirements process as well. 18 So I would encourage some feedback from 19 that community, too. 20 CHAIRPERSON KADISH: Well, there is -- no 21 description like this is absolutely perfect. But if 22 you talk about the feedback across the spectrum there, 23 I think there are walls that have been built around 24 the Little A because of all kinds of different 25 reasons. And testing is a good example because one</p>
<p style="text-align: right;">Page 19</p> <p>1 Little A metrics and percolate each other so that, you 2 know, you're not just saying well, geez, you know, 3 we've got a program that's slipping. 4 Well, if you had metrics that were looking 5 at how the requirements were changing or varying or 6 the budget wasn't supported or something, you know 7 then maybe you don't have a program in trouble because 8 the system dictated that the requirements change or, 9 you know, the budget shifted. It pushes it out and, 10 therefore, you know, you shouldn't be saying that you 11 have a breach or a problem. 12 CHAIRPERSON KADISH: Yes, we are well 13 aware of those issues. And that's part of what we're 14 trying to describe here and just where to go. Simple 15 measures like design changes driven by requirements 16 interpretation. But those things tend to get drowned 17 out by the cost, schedule, and performance issues. It 18 turns out to be inside the beltway type of 19 discussions. 20 But the point is well taken. And I think 21 we're going to have some pretty lively discussions 22 over that issue. 23 MR. GIBSON: Paul Gibson. I provide 24 support to DOT and E. 25 When you laid out that spectrum of the</p>	<p style="text-align: right;">Page 21</p> <p>1 way you can look at this activity and the way we're 2 describing it is that testing is a requirements 3 process, not a feedback loop. Okay? 4 And the reason I say that is that in the 5 process of having a multi-year development of a 6 program where you start out with requirements designed 7 by the user, if you will, spend four to seven years 8 working on those requirements and filling in the white 9 space that they create, and then putting it in a 10 testing environment, the testing environment itself 11 because of the seven-year lag will generate new 12 requirements. 13 And that feedback is in the requirements 14 process more than anything else. Once you get into 15 operations sustainment, you still have Little A. And 16 it is done in different ways by the logistics centers 17 and depots and sustainment organizations. 18 But your point is also well taken. But 19 one of the things we need to think about in this 20 process is just what constitutes a requirement. When 21 you set up the MOEs within the test organizations to 22 do the testing, they are designed to trace back to the 23 original requirement. But in the process, all of us 24 have experienced that those MOEs expand the 25 requirement in many areas, sometimes beyond the design</p>

6 (Pages 18 to 21)

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1 way you can look at this activity and the way we're
 2 describing it is that testing is a requirements
 3 process, not a feedback loop. Okay?
 4 And the reason I say that is that in the
 5 process of having a multi-year development of a
 6 program where you start out with requirements designed
 7 by the user, if you will, spend four to seven years
 8 working on those requirements and filling in the white
 9 space that they create, and then putting it in a
 10 testing environment, the testing environment itself
 11 because of the seven-year lag will generate new
 12 requirements.
 13 And that feedback is in the requirements
 14 process more than anything else. Once you get into
 15 operations sustainment, you still have Little A. And
 16 it is done in different ways by the logistics centers
 17 and depots and sustainment organizations.
 18 But your point is also well taken. But
 19 one of the things we need to think about in this
 20 process is just what constitutes a requirement. When
 21 you set up the MOEs within the test organizations to
 22 do the testing, they are designed to trace back to the
 23 original requirement. But in the process, all of us
 24 have experienced that those MOEs expand the
 25 requirement in many areas, sometimes beyond the design

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1 they started out from scratch. They created a clean
 2 sheet.
 3 And then nothing happened for many years
 4 after that because of funding difficulties. The
 5 design team went away. And when they finally won the
 6 program, you start off. You start off with what? A
 7 whole new set of people, a whole new set of
 8 motivations. You have to go out and develop new
 9 advocates. A whole bunch of things. And that created
 10 a whole unique history on the C-17 program.
 11 So rather than looking for scapegoats
 12 where we can throw blame or ideal cases, I don't think
 13 they exist. What we're looking for is a better way to
 14 get the job done. And put the best we can in the
 15 hands of the war fighter.
 16 And when you look at all the Big A, Little
 17 A spectrum, it's a tough problem. You've got to
 18 temper an awful lot of appetites in that process. So
 19 don't try to look for an ideal solution. I don't know
 20 that there is a good example out there.
 21 MR. MOSES: This is Tom Moses, Light Safe
 22 International. So you mentioned we're looking for a
 23 more efficient system. Does this panel think it is
 24 important to identify that? And if so, what kind of
 25 metric would you say you would use to say this system

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1 works better than it used to?
 2 I mean how will we know we're there? I
 3 mean obviously you are doing this because something
 4 went wrong to begin with. Is it all about cost and
 5 schedule? How would you know your recommendations
 6 have been effective?
 7 CHAIRPERSON KADISH: Well, there's a part
 8 of the discussions that we're going to have to spend
 9 a lot more time on on different ways of measuring
 10 success. We have the tried and true cost schedule and
 11 performance. But those things might mean different
 12 things, for instance, if you have different categories
 13 of programs.
 14 Today, for instance, the way we categorize
 15 programs is by dollar value projected. You are an A
 16 Cat. 1 program if you spend what -- 350 million
 17 dollars in R&D funds. That's the only criteria that
 18 I am aware of. And there is some judgment that could
 19 be made by the leadership to put something on the list
 20 that doesn't meet that criteria.
 21 So one way of looking at the metrics might
 22 be to segregate what they are applied to. And, for
 23 instance, breakthrough technology and program
 24 activities of that nature that changes the game for
 25 the war fighter might have a different standard in

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1 cost, schedule, and performance than something we're
 2 pushing the state-of-the-art on but not that hard. So
 3 that's one way of looking at it.
 4 Another way of looking at it is to expand
 5 the set of metrics that we look at for the system. We
 6 tend to measure cost, schedule, and performance on
 7 programs. We don't tend to measure the process that
 8 those programs go through. The overhead, if you will.
 9 So that's another way of looking at it.
 10 So the answer to your question is there's
 11 a set of things we need to discuss and look at without
 12 any conclusions being made. But we know that's an
 13 issue. And there are different ways of look at it.
 14 I hope that helps.
 15 MR. KOZLOWSKI: All of us in this business
 16 are here to provide the war fighter with what he needs
 17 to get the job done. And there isn't a taxpayer
 18 around that I think would disagree with me that they
 19 want the best for their troops so that they can win
 20 and defend our freedoms. So you can take the cost,
 21 schedule, performance issues and put it in the light
 22 of what is happening in a combat theater. What's the
 23 cost? What's the schedule issue? What's the timing
 24 issue? What's the performance issue?
 25 And any time there is a deficiency, who

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1 failed? You know you'd love to have a force that is
 2 well equipped to the point where they are invincible,
 3 let's say, whatever that is to you. But we all deal
 4 in today's banking economics. It's the calendar.
 5 It's the dollars. And it's the technical spec.
 6 But if you could get something there
 7 sooner and maybe not have as much of a spec and it
 8 still worked, that would be better. How do you judge
 9 that? You make decisions today that will effect the
 10 posture of somebody fighting a war a couple of years
 11 down the pike. It's a very difficult process.
 12 So we deal in the things that we can deal
 13 with in terms of metrics. But we've got to somehow --
 14 and I don't know how to do this -- measure it in how
 15 well are we equipping, manning, training, and all that
 16 sort of stuff with our forces. And perhaps Dick can
 17 speak to that much better than I can.
 18 MR. HAWLEY: Well, I was just going to add
 19 a thought on this metrics issue that, of course, we
 20 are driven by cost, schedule, and performance. I mean
 21 that's where all the criticism comes from is programs
 22 that don't live up to expectations in one of those
 23 three metrics.
 24 One of the things I think that we're
 25 struggling with and the DoD has to struggle with is

<p style="text-align: right;">Page 14</p> <p>1 they started out from scratch. They created a clean 2 sheet. 3 And then nothing happened for many years 4 after that because of funding difficulties. The 5 design team went away. And when they finally won the 6 program, you start off. You start off with what? A 7 whole new set of people, a whole new set of 8 motivations. You have to go out and develop new 9 advocates. A whole bunch of things. And that created 10 a whole unique history on the C-17 program. 11 So rather than looking for scapegoats 12 where we can throw blame or ideal cases, I don't think 13 they exist. What we're looking for is a better way to 14 get the job done. And put the best we can in the 15 hands of the war fighter. 16 And when you look at all the Big A, Little 17 A spectrum, it's a tough problem. You've got to 18 temper an awful lot of appetites in that process. So 19 don't try to look for an ideal solution. I don't know 20 that there is a good example out there. 21 MR. MOSES: This is Tom Moses, Light Safe 22 International. So you mentioned we're looking for a 23 more efficient system. Does this panel think it is 24 important to identify that? And if so, what kind of 25 metric would you say you would use to say this system</p>	<p style="text-align: right;">Page 16</p> <p>1 cost, schedule, and performance than something we're 2 pushing the state-of-the-art on but not that hard. So 3 that's one way of looking at it. 4 Another way of looking at it is to expand 5 the set of metrics that we look at for the system. We 6 tend to measure cost, schedule, and performance on 7 programs. We don't tend to measure the process that 8 those programs go through. The overhead, if you will. 9 So that's another way of looking at it. 10 So the answer to your question is there's 11 a set of things we need to discuss and look at without 12 any conclusions being made. But we know that's an 13 issue. And there are different ways of look at it. 14 I hope that helps. 15 MR. KOZLOWSKI: All of us in this business 16 are here to provide the war fighter with what he needs 17 to get the job done. And there isn't a taxpayer 18 around that I think would disagree with me that they 19 want the best for their troops so that they can win 20 and defend our freedoms. So you can take the cost, 21 schedule, performance issues and put it in the light 22 of what is happening in a combat theater. What's the 23 cost? What's the schedule issue? What's the timing 24 issue? What's the performance issue? 25 And any time there is a deficiency, who</p>
<p style="text-align: right;">Page 15</p> <p>1 works better than it used to? 2 I mean how will we know we're there? I 3 mean obviously you are doing this because something 4 went wrong to begin with. Is it all about cost and 5 schedule? How would you know your recommendations 6 have been effective? 7 CHAIRPERSON KADISH: Well, there's a part 8 of the discussions that we're going to have to spend 9 a lot more time on on different ways of measuring 10 success. We have the tried and true cost schedule and 11 performance. But those things might mean different 12 things, for instance, if you have different categories 13 of programs. 14 Today, for instance, the way we categorize 15 programs is by dollar value projected. You are an A 16 Cat. 1 program if you spend what -- 350 million 17 dollars in R&D funds. That's the only criteria that 18 I am aware of. And there is some judgment that could 19 be made by the leadership to put something on the list 20 that doesn't meet that criteria. 21 So one way of looking at the metrics might 22 be to segregate what they are applied to. And, for 23 instance, breakthrough technology and program 24 activities of that nature that changes the game for 25 the war fighter might have a different standard in</p>	<p style="text-align: right;">Page 17</p> <p>1 failed? You know you'd love to have a force that is 2 well equipped to the point where they are invincible, 3 let's say, whatever that is to you. But we all deal 4 in today's banking economics. It's the calendar. 5 It's the dollars. And it's the technical spec. 6 But if you could get something there 7 sooner and maybe not have as much of a spec and it 8 still worked, that would be better. How do you judge 9 that? You make decisions today that will effect the 10 posture of somebody fighting a war a couple of years 11 down the pike. It's a very difficult process. 12 So we deal in the things that we can deal 13 with in terms of metrics. But we've got to somehow -- 14 and I don't know how to do this -- measure it in how 15 well are we equipping, manning, training, and all that 16 sort of stuff with our forces. And perhaps Dick can 17 speak to that much better than I can. 18 MR. HAWLEY: Well, I was just going to add 19 a thought on this metrics issue that, of course, we 20 are driven by cost, schedule, and performance. I mean 21 that's where all the criticism comes from is programs 22 that don't live up to expectations in one of those 23 three metrics. 24 One of the things I think that we're 25 struggling with and the DoD has to struggle with is</p>

<p style="text-align: right;">Page 18</p> <p>1 what are those metrics in relation to? They are in 2 relation to some expectation that was established 3 early in the program's life. And it seems clear to 4 the information that we've gathered so far that those 5 expectations are often the problem, at least as much 6 as the actual execution of the program. 7 We set these expectations very 8 optimistically and so part of the problem is not just 9 executing to the advertised cost, schedule, and 10 performance goals but setting appropriate goals to 11 begin with. And I think that is an area where we'll 12 have to address. So perhaps another metric is the 13 quality of those initial estimates of cost, schedule, 14 and performance. 15 CHAIRPERSON KADISH: Anybody else? 16 PARTICIPANT: You bring up, you know, the 17 fact you've got three circles there, you know, which 18 kind of what I used to refer to as the three-legged 19 stool and the relationships to them. And we talk 20 about collecting all the metrics on acquisition, you 21 know, which is really most of the time in the Little 22 A area. 23 You know maybe we need to think about how 24 do we collect metrics relative to requirements in 25 budgeting and how those metrics then fit with the</p>	<p style="text-align: right;">Page 20</p> <p>1 elements of the Big A, the things that come after the 2 Little A, like operations -- operate, sustain, and so 3 forth, you would think -- I think that the cost, 4 schedule, and performance metrics tend to get 5 identified with contract bill of required test to 6 produce. 7 But perhaps there is a feedback loop from 8 operate, sustain, upgrade that needs to come back to 9 Little A so that there is some learning there in going 10 through that process. So I would hope that perhaps 11 you would have an input from the maintenance function, 12 you know, which ends up with how often it breaks and 13 how difficult it is to repair and the huge logistics 14 footprints that has to go along with deploying forces 15 which slow down and so forth and so on that might 16 influence that Little A process and indeed the 17 requirements process as well. 18 So I would encourage some feedback from 19 that community, too. 20 CHAIRPERSON KADISH: Well, there is -- no 21 description like this is absolutely perfect. But if 22 you talk about the feedback across the spectrum there, 23 I think there are walls that have been built around 24 the Little A because of all kinds of different 25 reasons. And testing is a good example because one</p>
<p style="text-align: right;">Page 19</p> <p>1 Little A metrics and percolate each other so that, you 2 know, you're not just saying well, geez, you know, 3 we've got a program that's slipping. 4 Well, if you had metrics that were looking 5 at how the requirements were changing or varying or 6 the budget wasn't supported or something, you know 7 then maybe you don't have a program in trouble because 8 the system dictated that the requirements change or, 9 you know, the budget shifted. It pushes it out and, 10 therefore, you know, you shouldn't be saying that you 11 have a breach or a problem. 12 CHAIRPERSON KADISH: Yes, we are well 13 aware of those issues. And that's part of what we're 14 trying to describe here and just where to go. Simple 15 measures like design changes driven by requirements 16 interpretation. But those things tend to get drowned 17 out by the cost, schedule, and performance issues. It 18 turns out to be inside the beltway type of 19 discussions. 20 But the point is well taken. And I think 21 we're going to have some pretty lively discussions 22 over that issue. 23 MR. GIBSON: Paul Gibson. I provide 24 support to DOT and E. 25 When you laid out that spectrum of the</p>	<p style="text-align: right;">Page 21</p> <p>1 way you can look at this activity and the way we're 2 describing it is that testing is a requirements 3 process, not a feedback loop. Okay? 4 And the reason I say that is that in the 5 process of having a multi-year development of a 6 program where you start out with requirements designed 7 by the user, if you will, spend four to seven years 8 working on those requirements and filling in the white 9 space that they create, and then putting it in a 10 testing environment, the testing environment itself 11 because of the seven-year lag will generate new 12 requirements. 13 And that feedback is in the requirements 14 process more than anything else. Once you get into 15 operations sustainment, you still have Little A. And 16 it is done in different ways by the logistics centers 17 and depots and sustainment organizations. 18 But your point is also well taken. But 19 one of the things we need to think about in this 20 process is just what constitutes a requirement. When 21 you set up the MOEs within the test organizations to 22 do the testing, they are designed to trace back to the 23 original requirement. But in the process, all of us 24 have experienced that those MOEs expand the 25 requirement in many areas, sometimes beyond the design</p>

<p style="text-align: right;">Page 22</p> <p>1 of the system you are testing. 2 So it's a big problem in terms of the way 3 we're looking at the whole Big A issue. 4 MR. KOZLOWSKI: You just did something, 5 though, which is illustrative of the complexity and 6 the kind of problems you get into. I just finished 7 reading a paper this morning where a very respected 8 leader in this business took great issue with the 9 acquisition system and he came back to a reference 10 diagram and he changed one line and it changed the 11 whole perception and his whole outlook on the 12 acquisition system. 13 If you take a look at that chart, you 14 could just as easily have said Little Acquisition from 15 my perspective included the next -- and probably all 16 the way to the disposal. It could have been 17 everything in the last three columns. 18 The point I'm trying to get to is you've 19 got hundreds of thousands of people in this business 20 who take a look at regs and flow diagrams and 21 viewgraphs. Each one of them has the possibility of 22 coming up with a different interpretation as to what 23 the author meant. 24 If the Secretary or somebody in the chain 25 of command says we're going to do business this way,</p>	<p style="text-align: right;">Page 24</p> <p>1 implementations. Same rules. 2 So we've got a real challenge here in the 3 process. And the challenge -- the way we're setting 4 this thing up is that we may not like the way we 5 define some of these things for our own purposes but 6 that's what we're going to have to do to cut down on 7 the complexity. 8 We have time for one more. 9 MR. BENNY: Hi, I'm Jim Benny with BNA, 10 Civilian Contracts Report. 11 I know you can't predict or necessarily 12 speculate what Congress is going to do but both 13 authorization bills currently have a number of 14 requirements that could change the way maybe the 15 Little A works, especially the Senate's current 16 version. 17 Could their passage of some of these 18 requirements maybe delay some of your work? And vice 19 versa? Is the work of your panel having any influence 20 on the creation or the development of those 21 requirements or provisions? 22 CHAIRPERSON KADISH: Well, right now we 23 have people on the staff who -- and Dave Patter in 24 particular -- who have been talking to the different 25 staffers on the Hill. And we hope to converge on this</p>
<p style="text-align: right;">Page 23</p> <p>1 there have been reams written about why didn't they do 2 it the way he said. Some do. Some don't. Some have 3 different interpretations. 4 I don't know how the hell you fix that as 5 long as we're all human beings. And thank God we're 6 all different. That would be a very boring world if 7 everybody was the same. But as long as we're all 8 different, you're going to get a lot of different 9 perceptions and that is one of the difficulties with 10 this system. Not everybody conforms and does 11 everything the same way. 12 CHAIRPERSON KADISH: Yes -- 13 MR. KOZLOWSKI: Sorry to get you confused. 14 CHAIRPERSON KADISH: But just to pull that 15 thread a little bit. How many people are in the 16 acquisition workforce in the DoD today? We have 17 trouble counting them. All right? And then you can 18 lop yourself into the Big A or the Little A. And so 19 a budget analyst interpreting the regulations in the 20 5,000 series might have a different perspective than 21 the program manager in the process. 22 And that's -- consistency of 23 interpretation is a very big problem. And another 24 good example is the PEO systems between and among the 25 services. The same structure, different</p>	<p style="text-align: right;">Page 25</p> <p>1 issue with the people that are concerned as soon we 2 are practically able to do so. Because, again, you 3 know, you can enlarge those Venn diagrams to include 4 Congress and a few other people as well -- OMB and the 5 executive. 6 So to break down the complexity, we kind 7 of focus on what we need to focus on now. But our 8 intent -- and I think the Secretary's intent if you 9 read the letter closely is to look at legislative 10 issues as well, is to pull that string and see what we 11 can do together on these issues. 12 And I guess that's about all I have to 13 say. We don't have anything specific right now. But 14 our intent is to move into that arena and be 15 cooperative with what the Congress would like to do. 16 And hopefully we can all do it together for the 17 benefit of everybody. 18 Dave, do you have any comments on that? 19 MR. PATTERSON: Well, I think that's 20 right. I mean the Senate particularly has some 21 initiatives that they'd like to see. And as we go 22 through what we're doing and we get more and more data 23 and we have greater insight into some of the behaviors 24 of not only the system but the people who are 25 involved, I believe that we're going to have an</p>

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1 opportunity to provide some fortifying, in some cases,
 2 and complimentary data to them so that when they make
 3 their decisions in conference, that they'll be
 4 informed and that we would hope that our efforts are
 5 certainly supportive of one another.
 6 And we have to keep in mind that what
 7 we're doing here is an extension of what the Secretary
 8 of Defense has started some three and a half years ago
 9 in terms of transforming the Department of Defense
 10 into a more capable organization to provide for the
 11 national security.
 12 We have been somewhat engaged in other
 13 pursuits most recently but that did not take away the
 14 requirement for the Department of Defense, in his
 15 eyes, to make itself better in every way. And the
 16 acquisition system is a way that it is now time to do
 17 that. And that's what this panel is all about.
 18 CHAIRPERSON KADISH: Okay. Well, I think
 19 -- do any of the panel members have anything they'd
 20 like to add before we take a break and get to our
 21 first guest?
 22 (No response.)
 23 CHAIRPERSON KADISH: Okay. We'll take a
 24 15-minute break and come back and start with General
 25 Dynamics. Thank you.

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1 (Whereupon, the foregoing matter went off
 2 the record at 2:00 p.m. and went back on the record at
 3 2:18 p.m.)
 4 CHAIRPERSON KADISH: Welcome back
 5 everyone.
 6 We have -- for the next hour, we have
 7 General Dynamics, represented by Michael J. Mancuso,
 8 General Dynamics CFO. And so without further ado,
 9 I'll just turn it over to him and speak in the
 10 microphone. And what we'll do is we'll ask you for
 11 whatever you'd like to contribute to us and then if
 12 you wouldn't mind subjecting yourself to a bunch of
 13 questions, I'd appreciate it very much.
 14 MR. MANCUSO: As long as I don't have to
 15 answer them.
 16 (Laughter.)
 17 CHAIRPERSON KADISH: Well, you can answer
 18 them any way you want to.
 19 MR. MANCUSO: Thank you. Thank you,
 20 General. Good afternoon.
 21 Ladies and gentlemen, distinguished panel
 22 members, what I intend to do is offer you some
 23 basically observations of the acquisition process as
 24 I have experienced. I'd remind you up front these
 25 views are not necessarily the views of General

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1 Dynamics Corporation but one executive who has
 2 participated in the defense industry a number of
 3 years. So please receive them in that context.
 4 I'm not looking necessarily to be
 5 controversial but I would like to leave you with some
 6 food for thought as you undertake a very significant
 7 effort in viewing modifications to the acquisition
 8 process. So let me go forward if you will.
 9 On behalf of our Chairman and CEO, Nick
 10 Chebraya, I'd like to thank Secretary England for his
 11 invitation to General Dynamics to participate in this
 12 DoD-sponsored assessment of acquisition policies,
 13 procedures, and processes.
 14 As you now know, I am the corporation's
 15 chief financial officer reporting to Mr. Chebraya.
 16 I've been in this job since 1994 but in the defense
 17 industry since 1965. With over 40 years experience
 18 with three major corporations in the industry, at
 19 least I feel somewhat qualified to share with the
 20 panel some observations of the acquisition process
 21 from my industry perspective. So with that said, let
 22 me go forward.
 23 Overall, I believe that the acquisition
 24 process, while not broken, can certainly stand to
 25 undergo some improvement. I believe that our mutual

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1 goal -- and by the our I mean DoD and industry -- is
 2 to provide our military with the very best
 3 technologies and systems that are available in the
 4 shortest amount of time and at affordable prices.
 5 Too often, the system collectively fails
 6 to achieve that goal while consuming billions of
 7 dollars in the process. For such a complex process,
 8 there can be no single cause for this shortfall. And,
 9 therefore, no simple remedy.
 10 There is, however, for the very large
 11 programs that represent a significant share of the DoD
 12 budget a common element that acquisition history
 13 suggests is the biggest single contributor to schedule
 14 expansion, cost growth, quantity curtailment, or
 15 outright cancellation. Let me explain.
 16 When DoD and industry collectively embark
 17 on a program that attempts revolutionary
 18 technological, leap-ahead product or system
 19 performance versus evolutionary improvement, we almost
 20 always get in trouble, almost always. Regardless of
 21 the contract structure, the end result is almost
 22 always cost growth, dissatisfaction, and conflict.
 23 To illustrate my point, I've listed a
 24 number of current and past programs, a few programs
 25 that I would label outright disappointments, those

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1 that I would consider successful, and a number of
 2 today's programs that are arguably at some risk for
 3 either cancellation, curtailment, certainly schedule
 4 expansion, and absolute cost growth. And these
 5 examples are not just General Dynamics' programs.
 6 Let me talk a little bit about what I'd
 7 call the major disappointments. If you go back far
 8 enough in time, you could go back to the A-12 program.
 9 It was going to be a revolutionary, carrier-based
 10 Stealth aircraft. Its roots go back into the mid-
 11 '80s. The program was ultimately terminated in 1991
 12 after billions of dollars were exhausted. There is
 13 literally nothing to show for it.
 14 A little bit more contemporary than the A-
 15 12 is the Comanche program. That was going to be the
 16 next generation scout helicopter. A team of United
 17 Technologies, Sikorsky, and Boeing teamed together on
 18 the Comanche. Again, the program was awarded, I
 19 believe, in the late '80s, perhaps 1989. Ultimately
 20 after about nine, ten, eleven years later, the program
 21 winds up being cancelled. Again, with billions of
 22 dollars spent and really nothing to show for it.
 23 You could down that list of additional
 24 disappointments. You could talk about Crusader.
 25 Crusader was a mobile artillery system that was going

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1 to replace the Paladin which was considered too slow
 2 and lacking in fire power.
 3 The Crusader started out to embody or
 4 introduce a liquid propellant gun. Ultimately when
 5 that failed, the system was throttled back to a
 6 conventional gun. And then again after a period of
 7 time -- a long time -- after billions were spent, the
 8 Crusader went away.
 9 If you get into the evolutionary cycle, I
 10 think we could talk about a lot more successes. You
 11 could go all the way back to the B-52, which has its
 12 roots probably in the '50s, if not early '60s. It
 13 just keeps going and going. Each time, new
 14 technologies being introduced into the aircraft, not
 15 leap-ahead, drastic technologies but continuing
 16 additions to the capability of the airframe, making it
 17 more and more viable and contemporaneous with the need
 18 of the day.
 19 The F-16 is another example. I don't know
 20 how many models we are up to on the F-16. But there
 21 is a low cost, single-engine, multi-capable fighter
 22 that has gone through any number of upgrades and
 23 evolutionary additions to the capability of the
 24 airframe.
 25 You go back to the M1 tank. The M1 tank

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1 ultimately evolved in the M1A2 SEP tank but the M1
 2 moved to the M1A1, upgraded the gun from a 105 to 120
 3 millimeter gun. And now we're up to the M1A2 SEP that
 4 has all of the latest and greatest upgraded
 5 electronics in it. Again, each one adding ultimate
 6 capability to the platform without taking dynamic
 7 risks with dollars and time in trying to get something
 8 new into the program.
 9 F-18 is another example. We're up now to
 10 the ENF model. Again, constant upgrade.
 11 The Blackhawk helicopter is still flying.
 12 That has its roots back into the late '70s, early '80s
 13 with various upgrades.
 14 The Striker, General Shinseki knew that if
 15 he didn't get a platform quick introduced, he would
 16 run the risk of it never having happened. So he took
 17 an existing LAV platform or frame and introduced all
 18 the new technologies that were necessary, knew that he
 19 wanted a wheeled armored vehicle. And the Striker was
 20 born and is now serving us well in theater. If we had
 21 to start new with that, God only knows where we'd be
 22 now.
 23 Trident SSGN, there is another one. Take
 24 the four Tridents that were coming out of service
 25 needing to be refueled and convert them to tactical

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1 missiles from ballistic missiles. Modest cost. Not
 2 high risk. Not long schedule. Very doable. And in
 3 a very short term, we'll have four very capable
 4 platforms where we didn't spend billions of dollars in
 5 trying to get something new started.
 6 C-130, notwithstanding the advertised
 7 problems with the J model, the C-130 has come along in
 8 various and sundry upgrades and applications for the
 9 last 25 years, 30 years.
 10 If we move over to the revolutionary
 11 programs, the today programs that may be on the bubble
 12 but certainly are capturing a lot of the news, we
 13 could talk about the F-22, again a program awarded in
 14 1989 or 1988. I was with United Technologies when
 15 they got the engine contract on the F-22. Here we are
 16 in 2005 and we're not sure how many we want to buy,
 17 how many we can afford, et cetera.
 18 The V-22, very revolutionary. Changing
 19 the flight dynamics of vertical and fixed wing flight.
 20 Again, its roots go back to 1990, 1989. Secretary
 21 Cheney at the time tried to cancel the program. Here
 22 we are in 2005 and it is still a development program
 23 in essence.
 24 The F-35 is garnering a lot of attention
 25 today. It's a technological marvel. Three different

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<p>1 models, et cetera, et cetera. But it's back to the 2 issue of is it affordable along with the F-22 and the 3 other platforms. Can we afford to do it? 4 The Aerial Common Sensor, there is another 5 example where the Army made a selection and now all of 6 a sudden, the platform that was selected is deemed not 7 to be capable of handling the electronics package that 8 is necessary. And now we're talking about another 9 procurement or a change or a modification to the 10 program to introduce a new aircraft again which will 11 spin the development cycle back a number of months if 12 not years. 13 Future Combat Systems, another one that is 14 drawing a lot of attention. Very, very revolutionary. 15 Many parts and many pieces, moving all in different 16 directions kind of thing. Sitting out there with a 17 schedule that has now been slipped a couple, two, 18 three years from its original advertisement 19 requirements date, et cetera, et cetera, and still 20 under a significant amount of pressure. 21 The Expeditionary Fighting Vehicle, it is 22 a great system. This was the original AAV. General 23 Dynamics won that program in 1995. We're here in 2005 24 and we're still in development. Money was stretched 25 out. Additional requirements testing and so on and so</p>	<p>1 as we go forward. 2 Revolutionary programs by their very 3 nature are risky. They require a very long-term 4 commitment, will undoubtedly experience problems, and 5 need to be viewed accordingly by both DoD leadership 6 and Congress. And may need to be managed and funded 7 outside what I call the normal process. When programs 8 get into trouble, the schedule gets extended, 9 requirements get relaxed, and ultimately quantities 10 get reduced. 11 Back to DDX. DDX is perfect example of a 12 program whose roots date back to the mid-1990s and 13 evolved from the arsenal ship concept to what was the 14 Surface Combatant 21 or SC-21 to the DD-21 and is now 15 the DDX. Huge sums have been expended up to now. And 16 under the current program scenario, the Navy will not 17 see a first ship until at least 2013. And God knows 18 at what cost per copy. 19 The DDX is stuffed with new, unproven 20 technologies that must undergo exhaustive development 21 before being introduced into production. The DD-21, 22 its forerunner, if you will, was a 9,500 ton ship with 23 a recurring unit cost target of 750 million dollars. 24 The DDX is at least 14,000 tons as currently 25 envisioned and will cost anywhere between three-and-a-</p>
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<p>1 forth. Low rate production not anticipated for 2 another three years. 3 Finally DDX, I'll talk more about DDX but 4 it is another example of a very revolutionary 5 platform. And unfortunately with a lot of the 6 attributes are the problems that come with 7 revolutionary platforms. 8 This list is not intended to be all- 9 encompassing. There are still other programs we could 10 talk about like the Virginia-class submarine, the 11 CVNX, the LPD, various satellite programs I'm sure you 12 are aware of, and the littoral combat ship to name a 13 few. 14 The major disappointments reflect that 15 despite having spent billions of dollars, there's not 16 much to show for the revolutionary effort. The 17 successes, I think, demonstrate that an evolutionary 18 approach to introducing new technologies can pay 19 significant dividends. 20 The revolutionary, at-risk group have all 21 experienced some element of schedule slip, quantity 22 reductions, and/or cost growth and be on a watch list 23 for some time primarily because they represent 24 revolutionary advances in technology that can and will 25 command a large piece of some very, very tight budgets</p>	<p>1 half and four-and-a-half billion a copy. And the 2 quantities are now down to eight to twelve range. 3 To further underscore my point, there was 4 a recent article in Defense News the other day titled 5 "Hard Choices Ahead" that talk about yet another round 6 of program reviews initiated by Secretary England. 7 Reviews of these very programs we've been talking 8 about. 9 There was another editorial article in the 10 Los Angeles Times titled "Best Weapons Money Can Buy" 11 specifically addressing the challenges faced by the 12 Pentagon surrounding many of these very programs. But 13 in reviewing these programs, the DoD and the Congress 14 must carefully assess the impact of any decision to 15 alter course on the defense industrial base. 16 In summary, what I have attempted to do is 17 focus the panel on just one important aspect of the 18 acquisition process. I've not gone so far as to 19 recommend the solution because I think this aspect 20 needs to be addressed in the context of your overall 21 assessment. But in terms of process sufficiency, 22 affordability, and managing the expectations, we need 23 to learn from our past. 24 Industry stands ready to support the DoD 25 but to be viable, we need stability in order to</p>

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1 effectively apply resources to these programs.
 2 Impatience and under-funding of these revolutionary
 3 pursuits exacerbate our problem and our challenge.
 4 Thank you ladies and gentlemen and panel
 5 members for your attention. And I look forward to
 6 your questions.
 7 CHAIRPERSON KADISH: Well, thanks. That
 8 was a pretty good summary of some of the major issues
 9 that we're facing.
 10 At this time then, I'd like to open it up
 11 for questions from the panel if I might. Anybody?
 12 MR. KOZLOWSKI: I think most of us realize
 13 the dichotomy -- I'm not sure what the right word is -
 14 - between what you call the revolutionary approach
 15 versus the evolutionary and the risks associated with
 16 that and so on.
 17 I break that down into two specific
 18 questions. One, to get around the revolutionary
 19 approach, one could start off saying hey, we ought to
 20 develop the technologies, get them mature before you
 21 really launch into a full out program. Given that, is
 22 the risk in the primary vehicle? Or is the risk in
 23 the subsystem arena? Or both? That's one question.
 24 And the second one is very much more broad
 25 based. And that is how much of the cost overrun

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1 perception, be it real or imagined, how much of it is
 2 due to industry? In other words, lack of performance
 3 in the industry?
 4 MR. MANCUSO: Well, let me take the back
 5 part of that question first. And talk about how much
 6 of the overrun or problem, if you will, belongs to
 7 industry. Certainly industry is not without fault.
 8 So I wouldn't sit up here and suggest to you that
 9 industry is perfect and it is somebody else's problem.
 10 We have an appetite and sometimes the
 11 exuberance to sign up for things that we're not
 12 necessarily capable of doing. We're perhaps under-
 13 assessing the technological challenge embodied in what
 14 it is we're attempting to do. But for competitive
 15 pressures or what have you, we wind up signing up a
 16 little bit more aggressively perhaps than we
 17 necessarily should.
 18 After being scarred and burned a number of
 19 times, of course we all step back and take pause and
 20 wonder what it is we're signing up for. I mean you
 21 could go back to the early '80s and the mid '80s where
 22 the watch word of the day was fixed price development
 23 contracts. Industry got killed. Bled to death. It
 24 wound up resulting in a change of the law to eliminate
 25 fixed price development. That was to protect us to

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1 some degree from ourselves.
 2 So industry has a role and a
 3 responsibility but if I were to apply my own guess,
 4 I'd say it is 60-40 -- 60 DoD, 40 industry, industry
 5 certainly a willing partner but we're trying to
 6 satisfy the wants and needs of our customer. And if
 7 our customer defines those needs as important and
 8 pressing, perhaps sometimes we're all too willing to
 9 sign up.
 10 Again, back to your early part of your
 11 question is it the primarily platform, if you will, or
 12 the system that drives the two things? And I guess an
 13 evasive answer would be it depends. If in the case of
 14 -- a good example perhaps might be the Aerial Common
 15 Sensor program. The aircraft was viewed in defining
 16 the requirements for the program as merely the bus
 17 that was going to carry the payload or passengers kind
 18 of thing. So as long as it met minimum requirements,
 19 it was fine.
 20 It turns out that the payload is a lot
 21 heavier and the power requirements more exhaustive
 22 than were initially envisioned. Therefore, that
 23 rendered the aircraft perhaps too small for the
 24 mission. So it's the chicken and the egg issue. What
 25 drove the delay? What will cause a relook, re-

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1 procurement kind of thing?
 2 A long-winded answer, Don, but --
 3 MR. KOZLOWSKI: That one -- that example
 4 is kind of a unique one. And the platform is an
 5 insignificant issue as long as it was big enough and
 6 powerful enough.
 7 Let's take the DDX. A lot of technology
 8 issues associated with that which I'll call subsystems
 9 aboard ship. But the platform itself is also somewhat
 10 revolutionary to be sure.
 11 How would you, in general, approach it?
 12 I mean some people say let's develop all the
 13 technologies before you really launch into a full
 14 development program. That can be a real sporting
 15 proposition when you're talking about 10,000 ton
 16 vessels and up.
 17 MR. MANCUSO: Well, let me -- DDX is a
 18 good example. Let's take that. There are two big
 19 issues with the DDX. One, of course, is -- obviously,
 20 its mission. But one of the things is get the systems
 21 onboard the ship that will allow it to reduce crew
 22 size from approximately 300 to approximately 100
 23 sailors. That means a significant challenge in the
 24 technologies to getting the systems onboard the ship.
 25 The second desire or need for the ship

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1 besides being stealthy is the introduction of a new
 2 hull form. Now I would suggest to you that with the
 3 existing DDG platform through a series of flight
 4 upgrades or technological upgrades, you could probably
 5 gradually introduce the various systems and
 6 capabilities the ship needs to have to reduce the crew
 7 size. And it wouldn't take forever.
 8 You can't get to the hull form issue. So
 9 you would definitely need a technology demonstrator
 10 that I would suggest to you should be procured in
 11 parallel to prove out the hull form so that you are
 12 not trying to put all the new technologies and the
 13 hull form together at the same time on a new ship.
 14 And oh, by the way, develop a gun that can
 15 fire 100 miles. And there are only two of them on the
 16 ship.
 17 CHAIRPERSON KADISH: Anybody else?
 18 DR. BRANDT: You mentioned stability. And
 19 that's one thing that industry is interested in.
 20 Where do you think the major sources of instability
 21 come from today? Is it budget? Is it requirement?
 22 Is it technology? Is it some combination? And does
 23 it come mostly from the government side? Or does
 24 industry in some way participate in that instability?
 25 How would you attack that?

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1 MR. MANCUSO: Well, I think it comes from
 2 multiple sources. It even comes from the evolution of
 3 the threat. We launch or conceive a platform to meet
 4 a certain threat. And before we get that platform
 5 into production, the threat disappears. F-22 perhaps
 6 an example of a stealthy fighter that we need to
 7 counter the Soviet forces and now there aren't any
 8 Soviet forces today to necessarily encounter. So the
 9 threat changed significantly.
 10 Because it takes us so long, and the us is
 11 everybody, the technologies leapfrog themselves. You
 12 can see it in the most simplest example of laptop
 13 technology and how much capability is now in a
 14 handheld device, et cetera, et cetera.
 15 The same thing happens to us in
 16 technology. If we take 10 or 15 or 20 years to
 17 develop a system, certainly by the time we get
 18 anywhere near completing the thing, technology has
 19 turned over four or five times.
 20 So trying to -- and that's generally
 21 because we're making this, I believe, this huge leap
 22 ahead of desire to introduce as opposed to
 23 evolutionarily introduce these technologies.
 24 So put all those factors together.
 25 Industry stands by to manage resources to bring them

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1 to bear. The fortunate or unfortunate thing about
 2 most of the defense industrial bases, they're all
 3 public companies and there is an army of shareholders
 4 and Wall Street beating up the CEOs for results, et
 5 cetera, et cetera, a lot of that comes back to
 6 managing resources and making a reasonable profit.
 7 So industry has its share of challenges.
 8 But we're a partnership in making this work. Now back
 9 to the point. The end game we want to get in the
 10 hands of the war fighter the greatest capability in
 11 the shortest amount of time at a price that is
 12 affordable in our economy and our society kind of
 13 thing. So we're all in this together.
 14 And I think it is all of us managing
 15 requirements. We can't let requirements change. We
 16 started out with an upgraded version of a DDG and
 17 we're now at umpty-ump accelerated versions of a
 18 cruiser-sized warship that we're calling a DDX. We
 19 can't let that get away from us. Those requirements
 20 just kept getting bigger and bigger and bigger and
 21 changing and changing and changing.
 22 I can't tell you the number of times that
 23 Northrop-Grumman and General Dynamics have submitted
 24 lengthy, voluminous responses to proposals for a set
 25 of requirements that no longer existed, no longer

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1 existed, no longer existed, evaluated criteria against
 2 a 750 million dollar baseline ship that no longer is,
 3 you know, it's a speck in somebody's memory way back
 4 So requirements got away from us. I don't
 5 know -- I'm not -- certainly I'm not blaming the Navy
 6 and I'm not blaming industry because we're in this
 7 collectively together. We need to communicate what is
 8 doable and what is affordable at which time the
 9 partnership sits down and makes the tradeoffs.
 10 What can we afford? What's it going to
 11 cost? What can we accept in terms of capability? And
 12 then give me a roadmap of how I can really get to
 13 really what I want. Just tell me how much is it going
 14 to cost and how long is it going to take. And if I
 15 can't afford that, I'm prepared to scale back and take
 16 it in steps.
 17 Too often we just jump to the gee whiz
 18 futuristic call of the world and then we're
 19 disappointed seven, or eight, or nine years later when
 20 the budgets are being overrun and we're not getting
 21 the performance that we're looking for.
 22 I hope that helped your answer.
 23 MR. HAWLEY: You mentioned firm fixed
 24 price development programs and some of the problems
 25 they cause. Others have commented that our current

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<p style="text-align: right;">Page 46</p> <p>1 approach with cost plus award fee programs tends to 2 incentivize people to drag out programs because there 3 is some reward there for having the cost grow. 4 And some have said that there might be a 5 place for fixed price plus incentives development 6 programs in those cases where the government has paid 7 a lot of money to buy down the risk. Is there ever a 8 place for a firm fixed price development program with 9 incentives? Or is this just -- if you open the door, 10 it's just too tempting to, as you said, for industry 11 to do something that causes us to come back in and try 12 to save industry from itself? 13 MR. MANCUSO: I think that -- I mean I 14 don't subscribe to the theory that speaking as an 15 industry participant that I can't remember ever a case 16 where we tried to stretch a cost plus program. 17 You know we get measured -- you know we're 18 an energy -- we're an EPS company, earnings per share 19 company. And we're an ROS company kind of thing. So 20 it's not earnings at any cost. ROS is important to 21 the investors in terms of a quality company. So I 22 don't think that's the case with the industry. 23 Yes, there are, I think, examples of where 24 fixed price development could work. Certainly fixed 25 price incentive works in limited rate production.</p>	<p style="text-align: right;">Page 48</p> <p>1 has got enough money to keep every industry out there 2 stable. The two are sort of disconnected. 3 So this is a rhetorical, somewhat of an 4 idealistic question. As a CFO, what I used to call 5 the money guy in the corporation, what would you 6 rather see -- individual programs in your company that 7 would be stable and, therefore, reasonably successful? 8 I mean you take your hits on everything 9 else bouncing up and down inside the corporation 10 which, by the way, drives your internal overhead 11 rates, your formal pricing agreements, and it's hard 12 as hell to stay on a nice continuous fixed price basis 13 that way, by the way. 14 Or contrast that -- would you rather just 15 as soon have your entire workforce reasonably stable 16 so that you've got one economic engine to manage and 17 it is relatively constant? Do you see the point I'm 18 trying to get at? 19 MR. MANCUSO: I'm going to try and answer 20 it. You know I'm not sure my boss would answer the 21 question the way I'm going to answer it so take it 22 with a grain of salt. 23 I would rather see stability from a 24 customer budgets requirement standpoint kind of thing 25 I think it is incumbent upon us to solve the latter</p>
<p style="text-align: right;">Page 47</p> <p>1 Fixed price incentive is working on the submarine 2 contracts that we have. The development side was cost 3 plus incentive fees. So there is an incentive on 4 cost. 5 Depending on how aggressive the technology 6 leap is, if it is a modest and reasonable and the 7 risks can be reasonably bounded, then fixed price 8 incentive could work. 9 MR. KOZLOWSKI: I'm going to generalize 10 for a minute on this issue of stability. We've 11 discussed amongst ourselves and in the public domain 12 as well the issue of budget stability. That is where 13 the funding stream is nice and consistent and well 14 defined for let's say a typical government program 15 manager. And that, of course, would flow down to 16 industry with a reasonable degree of stability. 17 That's one view of stability. That the incoming money 18 stream is going to be there. 19 There is another dimension of stability 20 that I spent an awful lot of my career working on and 21 that was keeping the in-house staffing relatively 22 stable and keeping the asset controls stable and 23 things of that sort. Let's just say it is the 24 internal mechanisms that you look at in a corporation. 25 I haven't yet found the solution where DoD</p>	<p style="text-align: right;">Page 49</p> <p>1 equation. What's the right size of the corporation? 2 I know I can speak in the context of 3 General Dynamics. We -- in 1991, General Dynamics was 4 a 10 billion dollar defense company. And in 1991 5 dollars, 10 billion dollars was a big dog. By 1994, 6 after the effect of the Berlin Wall and post-Desert 7 Storm, Bill Anders had sold off a lot of the company 8 and we were down to three billion dollars. 9 We dropped our corporate staff to about -- 10 the goal was 50 people. We never got there. We got 11 about to the 70-ish kind of head standpoint. We've 12 grown from three billion dollars to roughly 21 billion 13 dollars this year if you believe the projections. And 14 so a sevenfold increase in the size of the 15 corporation. 16 And our corporate staff is 165 people. 17 That includes drivers, finance folks, everything kind 18 of thing. So we've attempted to manage the resources 19 inside and found better and more efficient ways to 20 satisfy the requirements all the while trying not to 21 become a burden to the business units that need to 22 serve the DoD community, to be affordable at low rates 23 of production. 24 Electric Boat downsized about 70 percent 25 in the early '90s to be affordable at low rates of</p>

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1 production. They had six or seven submarines in the
 2 yard. Today we're delivering one every two years or
 3 so. Not even delivering.
 4 So I'd rather see the requirements -- the
 5 external budget remain stable and challenge us to
 6 manage the return for our shareholders and provide
 7 fair and affordable prices to the customer.
 8 CHAIRPERSON KADISH: I'd like to take it
 9 to a different level now. The workforce in the DoD to
 10 manage these programs and interface with industry is
 11 atrophied or at least allegedly atrophied over a
 12 number of years. And some of the acquisition
 13 strategies we're seeing are allegedly designed to
 14 overcome that. The idea of lead systems integrators
 15 for instance.
 16 What's your view of that particular
 17 strategy in managing programs? And do you think it is
 18 working? And if not, why not?
 19 MR. MANCUSO: Ron, I think at least my
 20 view of LSIs right now, I'd say the jury is still out
 21 on LSIs. And the biggest and most obvious test case
 22 will be FCS. And whether that works.
 23 I can't think of another high profile
 24 example of LSI in my recent memory. So obviously as
 25 a significant participant in FCS, both on the armor

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1 side and on the software side, we're obviously
 2 watching it with great interest.
 3 For us, it's working okay. But I can't
 4 speak for the ultimate customer on how they are
 5 viewing it. It's a lot of faith and confidence to put
 6 in the hands of one organization or organizations to
 7 manage. I'd take a wait and see on it.
 8 CHAIRPERSON KADISH: Are you concerned at
 9 all about the potential conflict of interest in and
 10 among the industry partners?
 11 MR. MANCUSO: It could be an issue.
 12 Certainly we were cautious in the sense that when we
 13 were bidding on aspects of the program, the LSI was
 14 also bidding on certain aspects of the program. And
 15 obviously there needed to be firewalls in place. And
 16 as I recall, there was some controversy on whether or
 17 not the firewalls were working or not working.
 18 But I guess at the end of the day, we'll
 19 put our faith in the system and assume they are
 20 working. But it can be a problem. It could be a
 21 problem if not tightly managed.
 22 But, again, I can't think of another
 23 example -- high-profile example other than FCS. And
 24 FCS is in that category of programs that I categorized
 25 as something that is getting a lot of attention

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1 because it is big bucks, consumes a great deal of the
 2 Army's budget going forward, will take a long time,
 3 and invariably become a target, potentially a bill
 4 payer if these technologies don't mature fast enough
 5 to satisfy it.
 6 CHAIRPERSON KADISH: Do you have any
 7 suggestions or comments on the ability of the
 8 government to manage complex systems like FCS and
 9 other activities?
 10 MR. MANCUSO: Personal opinion, certainly
 11 the government is challenged to have the personnel,
 12 capability, and training to deal with the magnitude of
 13 some of these programs and the vast amount of forces
 14 and resources that come to bear in this thing.
 15 I can't point to any particular program
 16 where I'd be concerned about it at this point. But
 17 with so many of them out there, certainly it's going
 18 to be a challenge to the resources that the DoD can
 19 bring to bear.
 20 Obviously just thinking in terms of the
 21 number of positions within the DoD that remain vacan
 22 while we get through this backlog issue, et cetera, et
 23 cetera, that's got to present a problem and a
 24 challenge while fighting a war.
 25 CHAIRPERSON KADISH: Anybody else?

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1 (No response.)
 2 CHAIRPERSON KADISH: Do you -- if you're
 3 going recommend to the government, one of the issues
 4 we hear from time to time -- let me start over -- is
 5 the idea that there are too many programs, too little
 6 budget to do them. Do you have any comments on the
 7 veracity of that statement? Or whether or not that is
 8 a good thing to have in the system?
 9 MR. MANCUSO: Personal opinion, I think it
 10 is a good thing but within limits. We're constantly
 11 looking at what is next, what is next, without regard
 12 to what we have in the pipeline. Perhaps another
 13 example might be the Virginia class submarine. It is
 14 attracting a lot of attention today because of the
 15 cost of the individual submarine.
 16 There is talk now of designing and
 17 building a smaller submarine that might cost a
 18 billion-and-a-half per copy. Well, if you look back
 19 about seven or eight years ago, the Virginia class was
 20 advertised to be a billion-and-a-half submarine at its
 21 current size and capability if ordered in quantity.
 22 So now we've reduced the quantity, won't
 23 get the two a year for a certain point in time, and
 24 rather than managing that issue, we're now talking
 25 about solving the problem by getting a smaller

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1 submarine at lesser cost that might be responsive to
 2 some threat that is out there.
 3 We've talked about going to diesel
 4 submarines as a cost-saving initiative, recognizing
 5 the threat that the Chinese may bring to bear with
 6 their proliferation of submarines kind of thing.
 7 So we're already looking out to what is
 8 next and strategizing what is next without dealing
 9 with the issue at hand. And that is can we develop
 10 the Virginia class or get it to a point where it only
 11 costs a billion-and-a-half? And with its capability,
 12 you don't need a number of smaller submarines.
 13 So our focus continues to change. We lose
 14 our focus on what we're doing today, fall out of love
 15 with what we're doing today. And we're all ready for
 16 something new before we've taken the current cake out
 17 of the oven. We've got to calm down and prioritize
 18 because we don't have all the money in the world to do
 19 all these things.
 20 MR. KOZLOWSKI: What was the original
 21 production rate that they talked about?
 22 MR. MANCUSO: It was going to be at least
 23 two a year.
 24 MR. KOZLOWSKI: In that context, do you
 25 think -- not just you but your industry as a whole is

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1 doing enough to reduce production costs? There is a -
 2 - this question sort of has two facets.
 3 And I, for one -- I'll give you the answer
 4 to the first piece -- I don't think the government --
 5 we, in general, in the community focus enough -- and
 6 it is just never mentioned the impact of production
 7 rates. It just drives a whole bunch of things in the
 8 equation. I think the quantity issue is driven by
 9 money as opposed to unit cost estimate.
 10 Now having said all that, I don't think
 11 personally -- and this is my bias -- that the industry
 12 as a whole, it doesn't matter what field you're in, is
 13 doing enough to just focus on reducing production
 14 costs, using American ingenuity to get defensive
 15 systems at a cheaper unit. Are you doing very much in
 16 that area?
 17 MR. MANCUSO: We're doing a great deal of
 18 it. Now I'm not going to sit here and suggest to you
 19 that there is not more that can't be done. Certainly
 20 there's always more that can be done.
 21 But in the competitive environment that we
 22 live in where cost is a major driver, driving cost out
 23 of the system is a paramount concern. It is something
 24 we talk about and focus on every day in every one of
 25 our business units, looking for more clever, more

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1 innovative ways of driving costs out of the system.
 2 As I said, from the very size of the
 3 corporate office and the burden that that places on
 4 the business unit, it gets passed back into the
 5 government customer through the overheads to the
 6 investing of capital in capability.
 7 We invested 250 million dollars in the
 8 Bath Shipyard after we bought it to create a state-of-
 9 the-art land level production facility.
 10 We bought NASCO and factored in another
 11 200 million dollars of modernization and lift
 12 capability to process ships through NASCO at a lot
 13 faster rate.
 14 We put a COTS facility at Electric Boat to
 15 be able to test the battle management system, the
 16 combat system of the submarine, at a much faster, more
 17 capable rate to reduce cycle time kind of thing.
 18 So industry, I think, is doing a lot. Not
 19 just General Dynamics but other members of the
 20 industry are doing an awful lot to try and reduce
 21 costs and get more efficient.
 22 Sending people home. It's a distasteful
 23 part of what we have to do but when resources ebb and
 24 flow, you have to be prepared to deal with that. So
 25 I think industry is very, very, very cost sensitive to

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1 a very tight DoD set of budgets in a time of war. And
 2 doing a lot.
 3 Is there more to do? There's always more
 4 to do.
 5 CHAIRPERSON KADISH: Anybody else?
 6 (No response.)
 7 CHAIRPERSON KADISH: Well, I think we'll
 8 end the session now. I certainly appreciate you
 9 taking the time to come on over and talk to us. And
 10 I think it was very informative. At least it was for
 11 me. And we appreciate the time and thanks.
 12 MR. MANCUSO: Thank you, sir.
 13 CHAIRPERSON KADISH: We may have to invite
 14 you back if you don't mind.
 15 Okay, we'll take a 15-minute break and
 16 come back at quarter after three.
 17 MR. MANCUSO: Thank you.
 18 (Whereupon, the foregoing matter went off
 19 the record at 3:03 p.m. and went back on the record at
 20 3:17 p.m.)
 21 CHAIRPERSON KADISH: I'm pleased to have
 22 Chris Kubasik from the great company of Lockheed
 23 Martin, and some better known as Lockmart. So without
 24 further ado, I'd just turn it over to these gentlemen,
 25 and we look forward to their comments.

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1 MR. KUBASIK: Good afternoon. I'm Chris
 2 Kubasik. I'm the Chief Financial Officer for Lockheed
 3 Martin, and Ralph Heath is our Executive Vice
 4 President of our Aeronautics Company, one of our five
 5 major lines of business, and we both report in to Bob
 6 Stevens, our Chairman and CEO.
 7 First of all, we're pleased to participate
 8 in this public hearing on the Department of Defense
 9 acquisition system and process, and we do appreciate
 10 the growing concerns of Congress and the DOD and the
 11 public relative to the rising cost of weapons systems.
 12 We also appreciate the Acting Deputy Secretary
 13 England's initiative in establishing this panel and
 14 looking forward to the recommendations that you will
 15 provide.
 16 Overall, we do agree that there are some
 17 potential areas of improvement relative to DOD
 18 acquisition system, and we're going to talk about
 19 those over the next few moments, both Ralph and I. We
 20 do believe, however, that there are many examples
 21 where things are, in fact, done correctly, and the
 22 common thread that we see is that where the
 23 responsibility, and the authority, and the
 24 accountability are, in fact, aligned within the
 25 acquisition system. There have been numerous

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1 successes.
 2 But to that end, we believe that whatever
 3 legislative actions are taken, changes in rules,
 4 regulations, obviously ourselves and the rest of the
 5 industry will comply with those. However, we believe
 6 that some of these issues can be addressed relative to
 7 changes in leadership and behavior, and the
 8 relationship between industry and the government.
 9 Let's go to the next chart.
 10 We're really going to focus on three major
 11 themes today, and the first one that I know several of
 12 the earlier speakers have talked about is stability,
 13 talking about the budget program and the requirement
 14 stability. I also want to talk about the workforce
 15 and the skills, and the experience of the workforce,
 16 and then talk about the contract incentives.
 17 We do have some emerging challenges that
 18 we'll share with you on our last chart, half a dozen
 19 or so ideas and suggestions that we just want to make
 20 the panel aware of. Overall, we are concerned with
 21 some of these trends, and as a corporation, we are
 22 committed to work with you to see if we can turn them
 23 around.
 24 The next chart, please, is really a
 25 notional chart here where we took a 10-year program

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1 from start to IOC which you can see on the top, and
 2 really tried to talk about the different dynamics that
 3 create the possibility or the probability of program
 4 instability. And I think when you look over this 10-
 5 year period, you see the potential clearly of
 6 political issues with elections, both at the
 7 executive and the legislative branches that have the
 8 opportunity, whether there's a change in party, or
 9 even just a change in individuals or personality can
 10 contribute to the budget instability.
 11 We have an annual budget cycle that we're
 12 all quite familiar with, and understand the
 13 uncertainty and instability that creates. We have
 14 management changes, more so on the government side, a
 15 lot of turnover in key positions, and we'll talk a
 16 little more about some specific examples where that
 17 does create instability in the program, whether it's
 18 interpretation of requirements, terms and conditions,
 19 overall knowledge of the program, or overall knowledge
 20 of the industry partners that are working with the
 21 government. And then, of course, various decisions
 22 with just one milestone here just being DAB, Defense
 23 Acquisition Board decisions.
 24 What we really think is critical is
 25 continuity. And as you can tell by this chart, any

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1 one of these creates the possibility for program
 2 instability, and the combination of all of these
 3 probably increases it to a probable state. So with
 4 that, let me ask Ralph to give some specific examples
 5 on a few programs.
 6 MR. HEATH: Thank you, Chris. The F-16
 7 program, there's actually several vignettes within the
 8 F-16 program that I wanted to highlight, and it's
 9 heralded, held up as one of the maybe better examples
 10 of a program that's been healthy, and has not only met
 11 expectations, but probably exceeded expectations over
 12 its life cycle for a number of different reasons.
 13 I thought it was worthwhile to go back and
 14 dissect that, and again highlight several points.
 15 We're sitting at almost the 30 year point since the
 16 delivery of the first production F-16. It's gone
 17 through probably around 50 different unique type
 18 versions at this juncture across six major model
 19 variants, has been sold to 24 different nations around
 20 the world, and realized a spiral development that has
 21 succeeded even before spiral developments, the term
 22 was used or even conceived. That is, in fact, has
 23 been in place, and has been, frankly, one of the major
 24 sources of life blood for the program.
 25 The three different vignettes, if you

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<p style="text-align: right;">Page 62</p> <p>1 first look at the very beginning of the program, the 2 Lightweight Fighter, the rules were basically thrown 3 out, and the whole notion of lean, even before lean 4 was -- I guess 20 years before the concept of lean was 5 invented was, in fact, fundamental to the F-16 6 program. Tailoring your requirements, minimum 7 oversight, incentives of innovation and taking some 8 managed risk at the beginning of the program were, in 9 fact, there, which the results of which endure today. 10 Even though we've had the spiral development, the 11 fundamentals that made that product what it is and 12 what it was are still fundamentally there including, 13 by the way, the affordability dimension. That was 14 there from the outset and has remained there 15 faithfully for its duration. So I hold that up as 16 being okay, obviously, even despite the cyclical 17 nature that Chris described in the chart, there are 18 examples in the F-16 from its beginning, was one. 19 I'm going to leap to the present, nearly 20 30 years later, and hold out an example associated 21 with the international dimensions of the F-16, and 22 that's the Block 60 or F-16EF for the United Arab 23 Emirates. This program has been a commercial 24 contract, fixed price development with a set of 25 requirements that led to a substantial increase in</p>	<p style="text-align: right;">Page 64</p> <p>1 Emirates, again, the international dimension of this 2 program has been invaluable. Around 40 percent of the 3 investment modernization of the product over time has 4 come from international customers, which the U.S. 5 Government, the U.S. Air Force has enjoyed the benefit 6 of either directly on its F-16s, or has been 7 foundational to the next generation of products, as I 8 mentioned before. 9 As we look ahead to the F-35 program, I 10 think that is a point that we should not lose sight 11 of. That has huge redeeming merit and value to the 12 U.S. taxpayer. 13 I then leap to the middle of the program, 14 and even though if you stand back and look at it from 15 a historical perspective, this again is viewed largely 16 as a pristine model program. Well, there was, in 17 particular, one significant bump in the road around 15 18 years ago, in which we experienced some significant 19 difficulties in being able to deliver the product. 20 There was a loss of confidence on the part of the 21 acquisition folks at that time in terms of the quality 22 and our performance as a contractor, and delivering 23 that product. And quite honestly, if you stand back, 24 it was a classic case of a breakdown in communication, 25 a lack of clarity of understanding of expectations.</p>
<p style="text-align: right;">Page 63</p> <p>1 capability of that product. Candidly, a number of the 2 capabilities have been a stepping stone towards the 3 next generation, fifth generation fighters that are 4 being fielded for the U.S. Has that program been a 5 success, and I would say at this point it's, without 6 question, a huge success as the aircraft begins its 7 life in the hands of the Emirates' customer. 8 The points that I would draw out in the 9 success of this program; number one, there was 10 stability in requirements and clarity of them from the 11 outset. There was absolute integrity, and both the 12 customer and the industry team has been faithful to 13 recognizing those requirements from the outset, as 14 cast in the contract. 15 There has been stability of those over 16 time. And the third piece is, there has been 17 unambiguous accountability of our company and the 18 industry team to fulfill its obligations under the 19 firm fixed price contract in that development. 20 Now I'm not here to say that the fixed 21 price development is the right end-state. I think in 22 its place, in this particular circumstance where risks 23 are reasonable and manageable, it is appropriate, and 24 I think we've demonstrated that at this juncture. 25 A side bar I would make beyond the</p>	<p style="text-align: right;">Page 65</p> <p>1 Expectations can evolve over time. It's more than 2 what's in the written form, it's the interpretation of 3 that. And it's also a focus in terms of what really 4 is of value, and is of importance. 5 There was a SPO Commander that was 6 appointed at that time, a gentleman by the name of 7 Colonel Kadish, that came to the program, and in a 8 reasonable period of time by forcing alignment of 9 expectations between the government and the industry 10 to get clarity of focus, that in the end let's not 11 lose sight of the fact, it is the capability being 12 delivered in the hands of the war fighter, with the 13 reasonable expectations of how we go join our efforts 14 to focus on that, as opposed to focusing on the 15 differences and the disagreements that we had to focus 16 on the common outcome, it was almost an immediate 17 turnaround, and immediate measured in months and not 18 years. And in my judgment, is one of the greatest 19 success stories of the F-16 program. And I think 20 looking ahead, and with the backdrop of the challenges 21 that are in the acquisition process today, the 22 leadership, the behaviors, the focus on real outcomes 23 and expectations is critically important. It's more 24 than what's written in the regulations. It's the 25 interpretation of that on a daily basis that is the</p>

17 (Pages 62 to 65)

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<p>1 able to maintain vigilance to ensure that both the 2 competitive interest and mechanisms are sufficient and 3 adequate to yield the products and capabilities at the 4 most affordable price to the customer, yet at the same 5 time yield a benefit, which is clear in terms of 6 outsourcing, as driven by overall reductions and 7 pressures for reduced staffing within the government. 8 A second one is to incentivize the inter- 9 dependency of Net-Centric capabilities. With the 10 advent of the technologies that we're experiencing 11 now, no particular program, no individual program is 12 an island onto itself. They're all inter-dependent. 13 There's critical linkages, even more than in the past, 14 between platforms, and overheads, and C-4I, and 15 weapons, and you name it in the whole spectrum. 16 The alignment of the programmatic of 17 those; in other words, it's like a Swiss watch to a 18 degree. If one part is moved, the implications and 19 the effect on the other constituent parts, in 20 particular when they're in a development cycle, can be 21 problematic. You can have significant risk imposed, 22 cost added, schedule stretch-out and misalignment 23 relative to what Chris spoke about just a moment ago 24 in terms of personnel resources due to no fault of 25 performance of the contractor for that particular</p>	<p>1 problem. So, obviously, that's a key responsibility. 2 As the government moves more towards outsourcing and 3 delegates that responsibility, we need to make sure 4 that we're stepping up and providing the necessary 5 checks and balances, insight and otherwise, that are 6 essential to maintain that continuity of confidence. 7 A final point is the trend or issue that's 8 at hand, very much a function of the longer 9 development cycles that we're experiencing in terms of 10 parts, obsolescence and the need for technology 11 refresh. I mean, we've had some real world 12 experiences of some of the major programs that we've 13 been responsible for of late, when you have to have a 14 technology refresh, even within a development cycle in 15 order to complete the development activities. The 16 solution to that can be accommodation of one 17 sufficient investment at the outset to have the assets 18 required to perform the development activities, tests, 19 and the like, populate the labs, and so forth. But 20 also, planning ahead for when there is a need for a 21 longer cycle, a long cycle, to accept that at the 22 beginning and plan for, and provide the resources 23 necessary for a technology refresh when required. 24 Okay. The last chart is just a summary, 25 and I think I'll just wrap it up by saying we</p>
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<p>1 element, purely as a response or a consequence of 2 impact from another area. So we don't offer, at this 3 point, more than -- it's clear that this adds an order 4 of magnitude, or maybe several orders of magnitude of 5 additional complexity on the overall acquisition 6 structure, and it needs to be part of the solution 7 set, as well. 8 A third point, value of incumbency 9 specifically for space systems, we think that there's 10 an important credential in past performance that is 11 critical. And in the interest or motivation to expand 12 competition, a danger of an emerging issue would be to 13 lose sight of the experience base and the relevance. 14 Making sure that that's adequately factored into the 15 criteria for award of contracts is critical in our 16 judgment, and in our opinion has been challenged over 17 recent time. 18 In terms of the promotion of public- 19 private partnerships and outsourcing, it's obviously 20 very critical that that be done. It will give the 21 benefits, the issue or the trust factor is all- 22 important. And it's one thing to outsource, but if 23 that compromise is compromised and/or called to 24 question because of lack of confidence in motivation 25 or integrity of the industry team, then that's a</p>	<p>1 appreciate the opportunity to make a few prepared 2 comments, and we look forward to any questions that 3 you, General, or the panel may have for us. 4 CHAIRPERSON KADISH: Thanks, Chris, there 5 are some interesting slides in that pack. Are there 6 any questions from the panel? 7 MR. KOZLOWSKI: Thank you. I've got 8 several, some of which are just clarification, so let 9 me go through those real quick. Your parts 10 obsolescence, is that primarily electronic components? 11 MR. HEATH: Not exclusively, but yes. 12 MR. KOZLOWSKI: Any other particular areas 13 where you're really having a hard time? 14 MR. HEATH: Other components, but it's for 15 the most part electronics. 16 MR. KOZLOWSKI: And that's going to be 17 with us for a while. And could you explain when you 18 said about promote public-private partnerships and 19 outsourcing. I don't really know what you mean by 20 that. 21 MR. HEATH: Okay. Well, in a number of 22 realms, in particular life cycle support, sustainment 23 there is clear trends towards outsourcing PBL-type, 24 performance based logistics incentivized outsourcing 25 to --</p>

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1 MR. KOZLOWSKI: To industry.
 2 MR. HEATH: To industry. Right. And the
 3 point that we're making is, it's more than that. I
 4 mean, it's also the discussion that we had on the LSI,
 5 delegating some of the responsibility for systems
 6 integration to industry, as well.
 7 The point I was making is that that
 8 imposes some challenges and risk to the government,
 9 and I was making the point that that is something that
 10 industry needs to step up to, to make sure that the
 11 integrity and public trust is not compromised in so
 12 doing.
 13 MR. KOZLOWSKI: The outsourcing you're
 14 talking about is the government to industry, and not
 15 your industry to go outsource.
 16 MR. HEATH: Correct.
 17 MR. KOZLOWSKI: Okay. In the case of LSI,
 18 you may or may not want to answer this but I'll ask it
 19 anyway. Would you prefer to see this LSI sort of
 20 charter have gone to, let's say, a consortium of
 21 federal research centers, or some are kept within the
 22 government, as opposed to the way we're going now?
 23 MR. KUBASIK: Let me take a first shot at
 24 that. My comments on LSI, I'll use one example that
 25 deals with the Deep Water program on the Coast Guard,

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1 as an example. And while we and our partner,
 2 Northrup-Grumman serve as the lead system integrator,
 3 it was a competitive program, and over 90 percent of
 4 the team mates were identified in advance of the
 5 competition. And everybody understood their roles,
 6 the appropriate firewalls were put in place, in my
 7 opinion, and the organizational conflicts were
 8 identified. I think that model is working well on
 9 that particular program, and the value that industry
 10 brings, going back to the experience issue on program
 11 management, outweighs the perception or concern of
 12 potential conflicts.
 13 I think where it gets a little more
 14 interesting is where the LSI does not have the team
 15 identified and the first thing they're engaged to do
 16 is run the procurement and selection of multi-billion
 17 dollars, or hundreds of millions of dollars of
 18 programs which, of course, they themselves are
 19 included. So my take is, from my personal opinion, is
 20 if the team mates are identified and the scope is
 21 understood for 80 to 90 percent of the program,
 22 clearly there might be some follow-on second, third
 23 tier competitions which would not be deemed material,
 24 in my mind. I think it can work.
 25 If it's the other model, and there's no

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1 selection underneath it, I would defer to either of
 2 the two alternatives you recommended.
 3 MR. KOZLOWSKI: I have a different issue
 4 I was trying to get to, and that is -- and maybe I'm
 5 naive about this, but when I see the government or any
 6 other that happens sometimes in the commercial world
 7 when I see the government taking a very large issue
 8 and throwing it out to what I'll call an independent
 9 party, doesn't matter how many players, it's sort of
 10 like the government turning over some of their
 11 responsibility to outside players. And in some
 12 respects I would rather have this global view, the
 13 global control of a very large problem, kept within
 14 the province of government. It has to do with an
 15 issue of industry will play any game that they want us
 16 to play. And I say that being primarily from
 17 industry, and on occasion I've also worn a service
 18 hat, so it bothers me to see - I think this is
 19 happening - for lack of adequate in-house capability
 20 and various other reasons - I see the government sort
 21 of handing this charter off to outsiders.
 22 That's okay for a while, but just as in
 23 industry, people want to jump on these programs. You
 24 talked about the workforce issues and all that. The
 25 industry cats will love to see this. Quite frankly,

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1 I've got some of my closest friends, my children
 2 working on one of those, but where does the military
 3 - the government, military, and civilian - what do
 4 they hold on to for the next four or five years before
 5 some of this stuff materializes?
 6 In other words, you're missing a great
 7 opportunity. The same zeal that an industrial
 8 employee might seek for a great program, that same
 9 zeal is there in the government. And when we farm
 10 some of these issues out, it scares me that the
 11 training ground for the government is being
 12 liquidated. That bothers me.
 13 MR. HEATH: Well, the supposition is there
 14 is redeeming value or savings, in combination with the
 15 necessity to move in that direction. That's either --
 16 for that to be the case, then that has to be the case,
 17 so the expectations need to be clear that the expected
 18 benefit to the government needs to materialize while
 19 maintaining the necessary controls to protect the
 20 public interest.
 21 MR. KOZLOWSKI: Do you believe that
 22 benefit is there for the government?
 23 MR. HEATH: I think we're early into it,
 24 and in the case that Chris described we, obviously,
 25 believe that that is a success to-date, and we'll see

<p style="text-align: right;">Page 82</p> <p>1 at the end of the day, but at least at this juncture, 2 we believe yes. 3 MR. KUBASIK: I'll just add, I agree with 4 your comment that industry will, in fact, try to be 5 responsive to the customer and we'll go where the 6 opportunities are. So clearly, the LSI initiative, 7 I'm not sure was driven by industry, as much as by the 8 government. And we're in a state of being responsive 9 to our customer needs, which is how we have the 10 situation, which is stating the obvious. 11 I agree with you relative to roles and 12 responsibilities ought to be clear, and I think 13 industry is responsible for managing and executing the 14 programs, and government has a role. I think the 15 question and definition is management, what management 16 should we have, and how far back in the cycle do you 17 go relative to source selection and running bids? And 18 my earlier comments would suggest that -- 19 MR. KOZLOWSKI: And requirements. 20 MR. KUBASIK: And requirements. And it's 21 where do you draw that line? So I think it's an 22 important issue. 23 MR. KOZLOWSKI: I shutter to see the day 24 when an LSI kind of contract will come up, and it says 25 what should the Navy be 25 years from now, what should</p>	<p style="text-align: right;">Page 84</p> <p>1 competitive. My point is this, we generally 2 historically, and it's particularly true in the 3 production contracts where we get the biggest revenue 4 stream and the chance for making money. Those things 5 are bid at fairly high double digit returns, all 6 within the weighted guidelines, but we, as an 7 industry, don't make it. Why? 8 MR. KUBASIK: Let me first comment on the 9 public utilities, the difference in the public 10 utilities, and sometimes I wonder if we are, in fact, 11 a sexy utility, but we've concluded we're not; is that 12 they cannot lose money. Every single dollar they 13 spend will show up in your electric bill, or your gas 14 bill the next month, and you have no choice but to pay 15 that bill, which is a little different dynamic, so we 16 have one customer, they have literally millions of 17 customers. 18 Relative to not getting what we projected, 19 I'm not sure I fully agree with that. We'll take 20 long-term fixed price contracts where we have to 21 commit over a five or seven year period, we make 22 significant assumptions and projections. We'll just 23 talk 20, 30 percent of our cost in industry is 24 indirect or overheads. We are projecting on some of 25 these fixed price contracts what our variable cost</p>
<p style="text-align: right;">Page 83</p> <p>1 the Air Force be, and everything else on the planet. 2 So much for that. 3 Let me go to my fun chart. It's back to 4 your profit chart. I've played around with this for 5 years, and it's nice to have another CFO in the seat. 6 Let me get into this, and you'll see my motivation. 7 If I take publicly owned electric utilities, they are 8 generally state regulated. Is that correct? 9 MR. KUBASIK: They are regulated, yes. 10 MR. KOZLOWSKI: And generally, their 11 figure of merit is return on equity or return on 12 investment and this operating margin is kind of a 13 fall-out, so their motivation is an economic engine. 14 The more they invest, the more they make. They don't 15 always do that for other kinds of financial reasons, 16 but their economic engine is quite, quite different. 17 I've been trying to get our local electric utility to 18 invest more, and they won't listen to me, though 19 they're making good money. 20 When you come to Defense, Defense industry 21 generally does not have the high operating margins 22 that a lot of other markets have. You show here 23 somewhere around 6, 7, 8 percent region. Very few 24 Defense contracts are bid at that margin. Once in a 25 while you go in because you want to be very, very</p>	<p style="text-align: right;">Page 85</p> <p>1 will be in 2009. This includes unseen events, for 2 example, or insurance costs tripled post 9/11. It 3 doesn't sound like a big problem, but we've paid over 4 \$100 million of insurance for a variety of reasons, 5 due to that unforeseen situation. 6 Pension benefits has been very well 7 publicized throughout the industry. It's an issue in 8 corporate America, where just about every corporation 9 has assumed an 8 to 9 percent return, and I'm not 10 aware of anybody in 2000, 2001, 2002, including all o 11 our personal accounts that made money in the market. 12 That causes a huge bow wave that we are now paying 13 for. For example, contracts we bid fixed price in 14 2001 did not project the healthcare cost, the pension 15 cost, and insurance, just to pick three off the top of 16 my head. 17 We do monitor. We have processes in 18 place. I would say on the development, the work 19 predevelopment contracts, those tend to be more in the 20 upper single digit range. The fixed price contracts 21 absolutely right, they're variable. One thing I think 22 all of industry can be criticized for is being overly 23 optimistic relative to our interpretation of the 24 requirements, our ability to have the technology 25 ready, and we assume that risk. But a lot of these</p>

22 (Pages 82 to 85)

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1 competitions, I'm aware of a couple where the award
 2 fee is 6 percent, and three of us get the RFP and it's
 3 not negotiable. If you win, you get 6 percent, at
 4 best, those types of things. It's probably best not
 5 to mention that program by name, but it's a two-way
 6 street, so I throw that in.

7 MR. KOZLOWSKI: In general, I agree with
 8 everything you've said, but there are some areas where
 9 I believe the public perception and those that deal in
 10 contract awards within DOD treat profit an evil thing,
 11 or profit is a way that I can really put the pressure
 12 on the contractor, because it will be backed up by a
 13 lot of people. And ergo, I'll just conclude that
 14 there has to be a way for industry to make higher
 15 margins. I have no qualm with that whatsoever. The
 16 risk-reward ratio is such that people are walking away
 17 from the defense business simply because it's better
 18 to go down the street and get into the banking
 19 business or something else. You can make a higher
 20 return. So the people that are in the defense
 21 business are generally there because they're committed
 22 to defense. It's a great place to work, whether it's
 23 aviation, ships, and things of that sort, but people
 24 are walking away from it. You can see that in the
 25 merger mania and everything else.

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1 Having said that, I've also participated
 2 in annual forward pricing agreements where the
 3 overhead rates get renegotiated and rejustified, and
 4 there is an inherent fear that I used to have - I've
 5 been retired since '97, so things may have changed.
 6 I hope they have. If there is a way to prove that
 7 valid cost was incurred in the prior year, I'll fold
 8 it into my cost base the next year, whether it in an
 9 overhead increase or something else, and it ups the
 10 ante. There is an inherent part of the system where -
 11 and I'll put it at the financial guys, because this
 12 is where that started in my case - somebody's got to
 13 put financial discipline. We've got to take the
 14 banker's attitude rather than the aerospace financial
 15 approach to it. You've just got to have a lot more
 16 discipline.

17 We generally bid 14, 15, 16 percent on
 18 these long-term fixed price contracts on a production
 19 basis, my experience. I don't know what your's is,
 20 you don't have to disclose it. But then you've got to
 21 do everything in your power to make it, and you can
 22 actually have high double digit returns in the defense
 23 business, if you do what you said you were going to
 24 do, and forget about whether it's before taxes. It's
 25 executing your contract.

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1 If we, as an industry, would execute
 2 better, we would have higher returns. It isn't all
 3 DOD's fault that we're not making better money.
 4 Having said that, I still believe there needs to be a
 5 door-opener for higher returns. That has to do with
 6 a general question of what part of the cost overrun
 7 problem do you think is industry's responsibility?

8 MR. KUBASIK: A few comments relative to
 9 cost savings. I think there need to be better
 10 incentives for industry to save cost. And the example
 11 I use goes back about five years, and it deals with
 12 excess facilities. I think the government, which is
 13 pretty well documented, has excess capacity. That's
 14 interesting, but the industry has excess capacity.
 15 And as the CFO of Lockheed Martin, I'm aware of two
 16 facilities that are half-full, and any rational
 17 commercial entity would consolidate those two.

18 We do not consolidate those two because it
 19 would cost us \$100 million, and all the savings
 20 immediately accrue back to the customer and the
 21 shareholders, with my fiduciary responsibility, it
 22 would be an irresponsible use of money. There was
 23 initiatives five years ago to allow the contractors to
 24 share in the savings, to at least recover our \$100
 25 million. It drives -- I agree with everything you're

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1 saying on the commercial side. The government rules
 2 and regulations drive bad behavior. We should be able
 3 to close a facility and at least reap the returns
 4 relevant to our investment to do so.

5 I can assure you, I probably know by name
 6 every program in Lockheed Martin making more than 10
 7 percent, and they're far and few between;
 8 notwithstanding your comments on forward pricing. I
 9 do believe it's a competitive environment, and
 10 whatever we negotiate we have to include in our bids.
 11 We would not be winning business if we were just
 12 completely inefficient and gaming the system. We
 13 would be losing to GD, Northrup, Raytheon, and we
 14 wouldn't be around, so there is a competitive nature
 15 to that.

16 On the forward pricing rates, not to get
 17 into a whole lot of accounting here, but there's two
 18 parts. You've got the actual cost, and the more
 19 significant part, and the bigger challenge is the
 20 base, and that is, this is just a simple what is the
 21 rate, what are you costs divided by your base, and
 22 think of your base, what's your revenue going to be in
 23 2008? So we'll use Ralph's business here, where you
 24 tell me how many F-22s, JSFs, F-16s, C-130s and C-5s
 25 to put in my 2008 outlook, regardless of what my costs

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1 are. We make our best estimate, and unfortunately,
 2 again I believe we tend to be overly optimistic, and
 3 the rules don't really allow us just to game the
 4 system. In fact, all the savings we get on the top
 5 line, our biggest inability to forecast the future is
 6 the shrinking base. PB-753, they're legendary, so
 7 anyway.
 8 MR. KOZLOWSKI: You're right on the mark,
 9 and I'll stop this, but I think we're getting to a
 10 very productive point. If you have any specifics
 11 where government regulation is preventing you from
 12 being an efficient commercial enterprise, such as the
 13 property closure issue that you talked about, please
 14 document those, get them into us and we'll look at
 15 them.
 16 MR. KUBASIK: Absolutely.
 17 MR. KOZLOWSKI: I think that's one of the
 18 fundamental root causes, the government doesn't
 19 understand how industry works, and vice versa. And
 20 there's lots of people who help us go break those
 21 laws, rules, regulations, whatever if they would just
 22 understand the magnitude of the problem, and how both
 23 sides, both the commercial side and the government
 24 would benefit in the long run.
 25 The next step that you just started

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1 talking about is the --
 2 MR. KUBASIK: Predictability.
 3 MR. KOZLOWSKI: Well, maybe that. The
 4 cost accounting role and all that entourage of things,
 5 which someday I may read before I retire, but I got
 6 lost after I got passed page 1. If in all of that
 7 there's a different way of setting up the accounting
 8 system and changing the rules so that if the
 9 government changes the rules of the game in your
 10 business-based projections, you want to be compensated
 11 for it. That's my view. If they change the rules,
 12 you can't come back and then get blamed for a unit
 13 cost escalation, because your overhead rates went up.
 14 MR. KUBASIK: I agree.
 15 MR. KOZLOWSKI: On the other hand, if the
 16 person dictating the quantity change understood our
 17 priority, and this is where they don't, what they're
 18 really doing to their own programs, or their own
 19 budget structure, their own dollars and how they're
 20 using taxpayer's money in the long haul, I think the
 21 behavior would change.
 22 Now there are a lot of reasons why
 23 quantities change that go beyond this economic
 24 argument, but I don't think people really understand
 25 the economics. All the engineering folks that I

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1 worked with throughout my career, they didn't begin to
 2 scratch a comprehension of what they were doing to
 3 economics. Engineers are sort of like what industry
 4 is saying here to the government, we'll do whatever
 5 you want us to do, but the engineering team eventually
 6 the guys generally end up being program managers, so
 7 you have to run things, and then you find out money
 8 drives this whole world for a whole bunch of reasons.
 9 End of story.
 10 CHAIRPERSON KADISH: Anybody else?
 11 MR. PATTERSON: I've got one question.
 12 It's a quick one. What's the penalty for Sarbanes-
 13 Oxley, and have you figured that out, and is it
 14 significant?
 15 MR. KUBASIK: We spent \$25 million
 16 complying with Sarbanes-Oxley in 2004.
 17 DR. BRANDT: I actually have a follow-on
 18 to someone's point. You mentioned in your answer that
 19 sometimes you're not sure that you're not a regulated
 20 utility, and there are those who would actually
 21 characterize the big defense contractors as regulated
 22 utilities. But you also said at the same time that
 23 you believe it's a competitive industry, and yet the
 24 economics of the industry, which I do understand,
 25 mitigated against closing over capacity within the

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1 industry.
 2 In a competitive commercial environment,
 3 companies would close those facilities because of
 4 commercial pressures. You operate, obviously, in a
 5 much different environment. Is there a competitive
 6 environment that you operate? What are those
 7 competitive pressures, and what could the Department
 8 do to actually enhance the competitive situation so
 9 that some of those decisions you would not be reliant
 10 only on government regulation or understanding to help
 11 in the area of profit or profitability?
 12 MR. KUBASIK: I think one of the
 13 components in the programs and contracts that
 14 ultimately may be more influential on the
 15 profitability, just the negotiated fee, or the
 16 proposed fee, are the underlying terms and conditions.
 17 I, personally, believe that it's personal opinion that
 18 a standardization of terms and conditions across all
 19 the services would be the best interest of both
 20 parties because sometimes in the details, there's
 21 clauses and other variations to the standard contracts
 22 that we negotiate or need to agree to, that ultimately
 23 may be the root cause to the profitability being
 24 different than what we had expected.
 25 Competition, I'm thinking through the --

1 If both sides are under-estimating the risk, for
2 whatever reasons, then they're not honest brokers at
3 the table, so to speak.

4 MR. FRANKLIN: I think that you have a
5 situation on both sides where the government team
6 members have a lot on their plate. The industry team
7 members have a lot on their plate, and I would guess
8 that your experience is when you ran into a problem,
9 you had a group of people that you said these are the
10 wizards. You could bring three people in that could
11 do the job of 30 because they had a broad experience
12 base, they had real depth, real technical competence,
13 and they could look at something and say within a
14 matter of hours here's the issue.

15 Now it may take longer to lay out the fix,
16 but I think everybody is stretched thin on that level
17 of competence, so I think you have a challenge in both
18 cases. That's why if you were to move this business
19 of better understanding the requirements up front, and
20 better interaction between industry and the government
21 about how do you go balance those things, I think
22 you'd have a better situation.

23 I'll tell you internally in all the
24 programs that we look at, I would say 80 percent of
25 them that are in trouble are in trouble because they

1 don't understand risk; and, therefore, they don't
2 understand how to manage it. And since government
3 hasn't taken effective action, I'd conclude they don't
4 understand either.

5 MR. HAWLEY: And your response suggests
6 that there are incentives built into our acquisition
7 system that motivate people to accept this kind of
8 ambiguity up front, to under-estimate risk. One,
9 could you help us understand what it is about our
10 system that incentivizes people both on the government
11 side, and industry, to buy into this relatively high
12 degree of uncertainty that gets programs off to a bad
13 start? And then do you have any ideas about what kind
14 of incentives it would take to more frequently get
15 programs off on the right foot?

16 MR. FRANKLIN: I don't think people
17 knowingly do this. I think it's an outgrowth of a
18 weakness in the experience base, and I'm really the
19 wrong person to ask about incentives, because you
20 never got an incentive in your career, and I never got
21 an incentive in my career; yet, we went and did our
22 jobs. I think we don't talk about leadership enough,
23 but I see a lot of disincentives primarily on the
24 government side, because there's a mismatch between
25 things like the press for speed and innovation, and

1 the oversight process. And I don't think we think
2 about the disincentives.

3 Contracting, I remember after I first got
4 to industry, going back to SAF/AQ and saying hey,
5 we've got this program and we're headed down this
6 track, and it's really the wrong track. And there are
7 all sorts of contract alternatives, but the
8 contracting officer says you can't do those. I said
9 what about the acquisition reform that AQ has been
10 preaching? And the answer was very interesting,
11 because I said acquisition reform hasn't gotten to the
12 level of implementation in the field, and the answer
13 was we're not surprised. So I would say to you as you
14 work acquisition reform or change, just like in
15 industry when we go work a change, it's got to be
16 something that goes down to every level. It has to be
17 measured on a regular basis, and people have to be
18 held accountable. So I think the disincentives --
19 what are the incentives for people to take risk in the
20 government? There aren't any.

21 By the way, I'll tell you one story. When
22 I first got into Raytheon, I wanted to build a surface
23 launched AMRAM that I could take and field. It wasn't
24 going to be perfect, and the guys said it'll take two
25 years. I said I'll give you 90 days. We negotiated

1 to six months. They ended up doing it in five months,
2 but because they had been trained everything has to be
3 heel-to-toe, every square has to be filled, it's going
4 to be two years. Now because I was the boss, I could
5 incentivize them in a negative way. I don't have a
6 great answer.

7 CHAIRPERSON KADISH: Of those 80 some odd
8 programs you looked at, in a general sense, could you
9 give us some idea of how many actually executed the
10 program they proposed, as opposed to being changed
11 soon thereafter, after the source selection?

12 MR. FRANKLIN: I don't have the detail on
13 when they were changed, but I will tell you we have
14 changed the way that we look at programs in Raytheon.
15 And one of the warning flags for risk is re-base
16 lining the program. All of those programs, or almost
17 all of those programs had been re-baselined more than
18 once, some of them four or five times.

19 Re-baselining is one of those things that
20 we have come to believe, to know actually, is really
21 a cardinal sin, and it's a way to hide a program
22 that's in trouble. It's a way to slow effective
23 corrective actions. And by the way, re-base lining
24 occurs as a partnership between the government and the
25 industry program office.

1 CHAIRPERSON KADISH: Yes, I was asking a
 2 little bit different question than that. There's some
 3 indication based on what you said about the source
 4 selection process not understanding risk, that we in
 5 the name of competition in the source selection, we
 6 set up that process to select a contractor. And then
 7 when we baseline the program the first time, we change
 8 a lot of what was proposed, all that planning going
 9 out the window. Did you see any indication of
 10 that? MR. FRANKLIN: We didn't look at it to
 11 that level of detail, so I really can't answer your
 12 question. I could tell you later on the structure of
 13 that program changed, both in content, and schedule,
 14 and cost.

15 DR. BRANDT: You said something before
 16 about both sides probably under-estimate the risks,
 17 and that for this system to work, you need to have a
 18 good buyer and a good seller. Yes, in that order, a
 19 good buyer and good seller. You've worked on both
 20 sides of the table in this. What would you say were
 21 workforce issues for government and for industry? Do
 22 you see deficiencies, do you see something that could
 23 be done on either side or on both sides that could
 24 make us a better customer, and perhaps industry a
 25 better seller in terms of that misunderstanding?

1 provide them whatever they needed.
 2 Now if you do that in war time, where
 3 you've got what I call the quiet mic syndrome, we got
 4 that in the case where it's not something that -- it
 5 may be something that affects war, it may be something
 6 that's intended to be bought later on, but trying to
 7 do the trade-offs, that's a place where you can put
 8 the resources on early-on to do the kinds of hey, what
 9 if we push the edge of the technology this far, what
 10 does that do?

11 Now you've got enough people in industry,
 12 I think, that would give you interactions on that in
 13 an intelligent way, that says well, if you want to do
 14 the radar cross-section down 30 more dB, here's the
 15 impact. Or if you want to increase, or on occasion
 16 Don Kozlowski, if you want to increase the number of
 17 paratroopers you can get out of the C-17 in half the
 18 time, what's the impact of that?

19 Those things don't occur early on, and it
 20 would make us a smarter seller because we understand
 21 the program you're working on, but it would help you
 22 be a smarter buyer in the sense that when you come up
 23 and solidify those requirements, solidify time lines,
 24 there would be a better understanding of what the
 25 technology readiness levels were, and what things

1 MR. FRANKLIN: Well, there are several
 2 things. What I was trying to say earlier was the
 3 earlier industry -- industry is funny. I shouldn't
 4 say that since I'm in industry, but I will. It's
 5 funny. It has a mindset that says once you've
 6 announced you're going to have a competition, industry
 7 seems to say well, we can't ask any intelligent
 8 questions in public forums, so they close the door.
 9 So you say well, how do you get out of that? And it
 10 would seem to me the way you get out of it is you make
 11 industry a partner earlier in the process before you
 12 get to the point that this becomes an actual source
 13 selection. They really understand what the
 14 operational needs are, they understand the pressures
 15 on cost. They understand what is the situation in
 16 Iraq and Afghanistan on IEDs?

17 I'll give you a personal experience, on
 18 Operation Iraqi Freedom, this isn't an acquisition in
 19 a way of source selection process, but in Operation
 20 Iraqi Freedom, I had the Patriot Program office under
 21 me. I got a call one day that said did you know that
 22 every day the chief, General Shinseki, gets briefed on
 23 the status of every patriot unit, and you guys are
 24 causing us major problems? I said, "News to me."
 25 Here we are. We had committed to the Army we would

1 drove the cost, and so forth.
 2 On the other side, how do you help
 3 industry, and how do you help the government? I think
 4 we both are suffering from, if you look at the
 5 demographics, and I think it's true across all of
 6 industry, you look at the demographics, you got a by-
 7 mode distribution of people. There's a hole in the
 8 demographics people let's say 10-20 years experience,
 9 there's a lump of people 20-30 years, and then you've
 10 got an up front piece, so you're losing on both I
 11 think the government and the industry side. You're
 12 losing some of those real senior people, and so what
 13 we're trying to do, at least in Raytheon, is we're
 14 trying to identify those things. We're trying to find
 15 ways to do a mentoring program with those, and
 16 accelerate, but that's a slow process. I think you've
 17 got to do the same thing in industry.

18 One of the things we're doing in Raytheon
 19 is we made a list of superstars that have retired, and
 20 we're working to make sure that we pull those people
 21 back in on a consulting basis, but you've got to be
 22 careful there because of the pension issues.

23 MR. PATTERSON: By way of fortifying what
 24 you said, I think that we were pretty successful from
 25 the government side when we called individual

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1 companies in to talk about IEDs, and we figured out
2 exactly what they had to offer, and we could make a
3 reasonably informed choice as to how to go about
4 working with them. And it seemed like early-on,
5 before we even knew what we were after, I thought it
6 was pretty helpful.

7 MR. FRANKLIN: Helpful, and then it went
8 into the piece of the system that's QRC. QRC hands-
9 off to a normal acquisition process that's not graded
10 on QRC, and it becomes sluggish.

11 MR. PATTERSON: We call that bureaucracy.

12 MR. FRANKLIN: Yes.

13 MR. HAWLEY: Just the nature of the beast
14 means that programs often experience unstable funding
15 from the government, that we started out with one
16 funding profile, and two years later we say well, we
17 didn't really have enough money, so you're going to
18 have to restructure and adjust to a different profile.
19 How big a problem is that? Is this a big contributor,
20 modest contributor, minor contributor to the cost and
21 schedule problems that we experience?

22 MR. FRANKLIN: It's a top seven item. In
23 the look that we did now at over 110 programs, the
24 third item on our list was funding stability either at
25 the beginning of the program, or during the program.

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1 And tied with that was requirements uncertainty and
2 stability, and it voiced itself in a number of ways.
3 It voiced itself in the government wanting to hold a
4 schedule in changing the profile. It voiced itself in
5 the way of money getting taken out, still hold the
6 schedule, hold the requirements, so I just give you
7 the shorthand version.

8 In this company evaluation team that I
9 run, we felt our value was to try to look at the
10 bigger picture items. And part of what we were trying
11 to do is keep programs out of trouble. But when they
12 got into trouble, understand early they were in
13 trouble and accelerate the fixing piece.

14 Four things came up, well, seven things
15 came up. One of them was strategic programs, which
16 I've talked about a little bit earlier. The other one
17 was fixed price development contractors, and fixed
18 price -- the first units being fixed price production
19 are, interestingly enough, cost-type development
20 contracts with the first production units being fixed
21 price, and that didn't seem to make sense. If you
22 want, I'll tell you why.

23 The next item was this business of
24 requirements and funding stability, or uncertainty.
25 There are enough contracts that are signed where the

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1 requirements are TBD. And interestingly enough, we
2 signed this.

3 The fourth item was difficult customer to
4 work with, and all that was primarily for
5 international. Politically correct we would not say
6 difficult customer to work with, but it had to do with
7 customers that once you're on contract, they want to
8 change things, and not necessarily want to stay within
9 the structure of the contract. And the classic is on
10 cost-type contracts where some customers say why do
11 you care? It's a cost-type contract. This is what we
12 want. We're the customer, do what we want, or else
13 you'll be impacted, and you pick the impact.

14 The next item was the lack of use of real
15 management tools, such as EVMS. And, by the way, I
16 believe that based on some discussions I've had with
17 folks in the building, it's not just an industry
18 issue. I believe it's a government issue, as well, a
19 real lack of understanding of how to use the tools, so
20 robbing themselves of the use of tools.

21 The sixth item was re-baselining, and I
22 mentioned that earlier. And interestingly enough, the
23 seventh item was one of what is the customer saying
24 about us, either through CPARs, letters, telephone
25 calls, other, that are early warning signs that there

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1 is an unhappiness with the customer, where we may or
2 may not take corrective actions. It's not quite as
3 formal as some of the other things. Those were the
4 seven things that we saw out of those programs, and
5 nothing has changed. In the way as we look at more
6 programs, all those still hold.

7 MR. KOZLOWSKI: What was your first one,
8 you said strategic programs?

9 MR. FRANKLIN: Strategic programs.
10 Strategic or investment programs.

11 MR. KOZLOWSKI: What do you mean by that?

12 MR. FRANKLIN: It's a large program. It's
13 a program that the government says is ultra important,
14 we say is ultra important. You get into the process
15 of being optimistic on everything. You do
16 dependencies on other programs, for example. You
17 know, the software on Program XYZ, that is very
18 similar. We'll lift that software and only do MODs to
19 it, those kinds of things.

20 MR. KOZLOWSKI: Can I translate then
21 through this discussion that the program in question
22 being a strategic program, does that correlate with
23 its image and its prestige, is akin to trouble down
24 the pike? Is that what you're saying?

25 MR. FRANKLIN: Here's what I'm saying.

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<p>1 What we's said internal at the company is these are 2 all warning signs. It's like you go to your doctor 3 and he says you're overweight, and you smoke, and you 4 don't get any exercise. It doesn't mean you're going 5 to have a heart attack, doesn't mean you're going to 6 die early, but it means the risk is higher. That's 7 what I'm saying. 8 MR. KOZLOWSKI: I get that, but it's 9 because this program is so damned important, people 10 are more prone to over-estimate, get over-zealous, and 11 so on? 12 MR. FRANKLIN: Sure. 13 MR. KOZLOWSKI: Okay. 14 MR. FRANKLIN: Then you've got to really 15 scrub the assumptions. 16 MR. HAWLEY: Gets back to incentives. The 17 incentives to get the program on the books are very 18 high because it's a strategic program; and, therefore, 19 it drives people to be optimistic. 20 MR. FRANKLIN: So in our context, the 21 higher the program is on the dollar list, or the 22 priority list, or on the -- 23 MR. HAWLEY: The higher risk is. 24 MR. FRANKLIN: The more risk. Means you 25 probably push the requirements, too.</p>	<p>1 Government Program Office these days, and the 2 capabilities of that Government Program Office. And 3 you see a clear change in the interactions that you 4 have where you've got a very experienced Program 5 Office on the government side, kind of interchanges 6 you have the ability to make tradeoffs, the issues you 7 could bring forward, communication chains and so 8 forth. As you get the less experienced team, it 9 becomes more of a program management by the numbers 10 It becomes more of hey, you can't talk to this person. 11 You can't bring this issue up. We won't do those kind 12 of trades. This is a hard contract requirement 13 whether it is or not, so there is clear -- and on the 14 industry side, in fairness on the industry side, I 15 mentioned the by-modal distribution. What we're 16 seeing on the industry side is when we have less 17 experienced Program Offices, there is a reluctance -- 18 they think the government Program Manager is God, I 19 mean literally God. 20 CHAIRPERSON KADISH: I never felt that. 21 MR. FRANKLIN: No, I know you didn't, and 22 I didn't either. But what we're seeing is there's a 23 lack of elevation, timely elevation of issues so that 24 you can, indeed, have more sensible discussions. So 25 my opinion is, in part on the government side, you</p>
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<p>1 MR. HAWLEY: How often do you run into 2 this difficult customer issue? I mean, it's on your 3 list of top seven How frequent is it? 4 MR. FRANKLIN: With some services it's 5 fairly frequent. It is very common in the 6 international arena. Roughly, 18-19 percent of our 7 work is international. And the message we try to give 8 internally is you really need to understand your 9 customer's characteristics, so as you go and bid that 10 program, you need to bid it understanding what that 11 customer's characteristics are. 12 MR. KOZLOWSKI: You need to know the 13 culture from which it comes. 14 MR. FRANKLIN: That's right. 15 CHAIRPERSON KADISH: Do you see any holes 16 in the government workforce in these indicators? We 17 have some indication that the workforce isn't what it 18 used to be. Are you dealing with less experienced 19 people; and, therefore, you get some of these 20 behaviors out of government. Is there a clear case to 21 be made in that regard? 22 MR. FRANKLIN: Yes, but our view is, if 23 you ask me for hard data, I wouldn't be able to give 24 you hard data, but our view is that there's a clear 25 difference between the average competence level of the</p>	<p>1 need a good career path. 2 I remember an operator one time telling me 3 that he thought the toughest job in the Air Force was 4 being a Wing Commander until he got stationed in AQ, 5 and then he found out - he said Wing Commanders have 6 good days. Program Managers get beat up every day. 7 They never have a good day, so there's got to be some 8 reward there. In fact, I told Mr. Welch one time when 9 he was the Acquisition Executive, I was at Eglin 10 running AMRAM, and I had a prisoner did my yard work 11 This guy was in for \$4 million of tax evasion, and I 12 called him up one day and I said -- I was always a 13 little - well, I wasn't always Christian about things, 14 and I said, you know, Mr. Welch, I've been noticing 15 I've got this prisoner. He goes to work at 8:00, he 16 gets off for lunch, he leaves at 4:00. He knows what 17 the rules are, he knows who his friends are. I said, 18 I'm working seven days a week. I don't ever take a 19 lunch break, and I don't ever take a dinner break. I 20 don't know who my friends are, and I sure as hell 21 don't know what the rules are. What's wrong with the 22 site picture? And he said, "Go back to work." 23 CHAIRPERSON KADISH: That actually was a 24 true statement. 25 MR. FRANKLIN: You remember that. You</p>

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1 were his Exec.
 2 MR. HAWLEY: This experience issue which
 3 affects both government and industry suggests that
 4 we've got some A Teams out there.
 5 MR. FRANKLIN: Yes.
 6 MR. HAWLEY: And then we've got a lot of
 7 C Teams.
 8 MR. FRANKLIN: Yes.
 9 MR. HAWLEY: Not many B teams.
 10 MR. FRANKLIN: Yes.
 11 MR. HAWLEY: In your experience in
 12 industry, are there ways, given this problem that you
 13 can't do much about since it takes five years to get
 14 five years worth of experience, is there a way to
 15 better leverage the A Teams than maybe we've done in
 16 the past?
 17 MR. FRANKLIN: Yes, we have increased the
 18 use of the grade bearers, putting teams into areas
 19 either up front or in the programs that are starting
 20 to go off track. We're also doing the business of, as
 21 I noted earlier, keeping track of -- cataloguing those
 22 people that are really superstars that have retired,
 23 bringing them back as consultants, and using them.
 24 And we use them extensively.
 25 We probably need to do more in that area,

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1 but that has been effective where we've been able to
 2 do it. What we find is that the breadth of experience
 3 in those A Teams is usually bigger. It's better than
 4 in the B or C Teams, so they may have experienced more
 5 programs.
 6 The other thing we're trying to do is we
 7 are trying to really strengthen the functional
 8 organizations. The classic wisdom is the functional
 9 organizations tend to be bureaucracy, and there's some
 10 truth in that, but the pendulum swung so far to IPTs,
 11 that we started to take away the advantage of
 12 functional organizations. And what we're trying to
 13 do, in fact, what we're doing is, we are pushing the
 14 pendulum back towards center on functional
 15 involvements because the corporate knowledge both in
 16 the way of what's been done and where to go can be
 17 accelerated by the functionals, so finding that
 18 balance is a critical ingredient.
 19 MR. KOZLOWSKI: I agree with that one 110
 20 percent. Do you think you'd ever resort to -- take
 21 one of your A-Teams, take that program manager and now
 22 make him let's say a PEO, and give him two or three
 23 programs; in other words, get double duty of triple
 24 duty out of a good team. And yes, that increases work
 25 load, but you can bring on some of the younger talent

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1 and sort of mix it up a little bit. Have you tried
 2 that yet?
 3 MR. FRANKLIN: Yes, we do that. In our
 4 vernacular, that's what the product line vice
 5 presidents are. And under those product line vice
 6 presidents, we cluster a number of programs. For
 7 example, in Ron's old job, missile defense under a guy
 8 named Rick Hughes, we ended up clustering all of the
 9 efforts for missile defense under Rick Hughes. And
 10 the other thing we're doing along that line is -- what
 11 we have found is that every product line vice
 12 president isn't of equal capability, so we are
 13 realigning it where it's clear that you don't have
 14 somebody that can do that mentoring, that can force a
 15 discipline, and that can develop those people, use the
 16 right tools, so we're doing that, but that's slow
 17 process.
 18 MR. KOZLOWSKI: A totally different target
 19 for this question, and you don't have to answer it
 20 here. You can take it home and get your folks to
 21 maybe answer it.
 22 In our last presentation, I had a little
 23 bit of a discourse on the profit motive and profit
 24 margins, and all that sort of stuff. And in the
 25 course of that discussion, he identified some things

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1 where they, as a company, were inhibited from
 2 executing an internal cost reduction scheme, and it
 3 was because of federal regulations or something to
 4 that effect. So if there are any federal regulations
 5 that you know that inhibit your cost-cutting ability,
 6 or inhibiting your profit margins, I think the panel
 7 would love to know about it. Now that's a fairly
 8 complicated question, and you can take it ad
 9 infinitum, I suppose, but if you can answer here,
 10 that's great, but I would certainly love a good
 11 answer.
 12 MR. FRANKLIN: Let me give you a piece of
 13 an answer, and then we'll kibitz whether we can expand
 14 on this constructively. We don't slow down cost
 15 reduction initiatives because of government rules.
 16 Now it's true, there's always this thing about gee, if
 17 we've got a fixed price contract, we do this cost
 18 reduction initiative this year, next production lot
 19 we're going to have to give that back. That's true,
 20 and that is a disincentive. But I will tell you that
 21 whether it's closing facilities, consolidating them,
 22 Raytheon for the last five years has been very, very
 23 strong on 6 Sigma. Every business has a cost
 24 reduction goal associated with 6 Sigma. So that says
 25 there is a mandatory productivity improvement that

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<p>1 we're working on everything. So at the top level, I'm 2 not aware that we slow things down. 3 We focus on the profit side by 4 performance. We really look, we put a spotlight on 5 award fees. We are, as part of my team, we have 6 highlighted -- there's two pieces to performance. One 7 of them is effectiveness, and that is whether you're 8 getting the product out. The other one is efficiency, 9 and so we have for a long time focused on 10 effectiveness, now we're focusing on efficiency, 11 because there are hidden costs when you don't do 12 things in an efficient way. You may be very 13 effective, and so that's forced us to go look at a lot 14 of things. It's forced us to look at time constants 15 for fixing problems. It's forced us to look at 16 overheads, return on investment. It's forced us to 17 change the focus on capital. 18 MR. KOZLOWSKI: Have you applied the 6 19 Sigma program to internal processes, as opposed to 20 product? I mean, it's obvious where it applies to the 21 product, touch labor operations, that sort of stuff, 22 but has it moved back up, even up into the marketing 23 stream, or the engineering quality and that sort of 24 thing? 25 MR. FRANKLIN: It is applied to processes.</p>	<p>1 this way I didn't have to wear a tie. 2 (Laughter.) 3 So you didn't have to look at me without 4 a tie. 5 CHAIRPERSON KADISH: Well, good. We're 6 all dressed up here waiting with bated breath to see 7 what you're going to say, so -- 8 DR. SUGAR: Let me quickly get my notes 9 organized, then. 10 Thank you very much for being willing to 11 listen to us. Ron, what ground rules did you want to 12 use? Timeframe? What process would you like to use 13 here? 14 CHAIRPERSON KADISH: Well, there's two 15 things I like to tell you, is that we've probably got 16 45 minutes to an hour. 17 DR. SUGAR: Okay. 18 CHAIRPERSON KADISH: If you want to take 19 that long. And it is an open meeting with many people 20 present. 21 DR. SUGAR: Okay. Is it a public meeting, 22 or is the meeting just for the committee? 23 CHAIRPERSON KADISH: It is a public 24 meeting. 25 DR. SUGAR: Okay. All right.</p>
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<p>1 It's applied to engineering. It's applied to all the 2 processes. And, Tom, in a marketing arena, I think 3 all of your guys have 6 Sigma projects. 4 MR. CULLIGAN: They do. 5 MR. FRANKLIN: So it's across the board, 6 and it's tied to other things, so our view is -- one 7 of the beauties of 6 Sigma is it causes people to 8 think about issues in a different way. Now it drives 9 them to look for facts, it drives them to say there 10 must be a better way of doing this, so that even if 11 you didn't have dollar advantages, there's some real 12 tangible advantages of doing it. 13 CHAIRPERSON KADISH: Okay. Thanks for 14 your time. And, as usual, we got a lot of insight 15 from you. We might ask you to come back. 16 MR. FRANKLIN: Thank you. Okay. 17 CHAIRPERSON KADISH: So thanks. We'll be 18 adjourned until one five. 19 (Whereupon, the proceedings in the above- 20 entitled matter went off the record at 5:09 p.m. and 21 went back on the record at 5:27 p.m.) 22 CHAIRPERSON KADISH: Sorry for the 23 technical delays here. 24 DR. SUGAR: Well, I think it was probably 25 on our side, Ron, but it's good to talk with you. And</p>	<p>1 CHAIRPERSON KADISH: So with that, we have 2 Don Kozlowski, Dave Patterson, Dick Hawley, and 3 everybody else on the panel here as well. So why 4 don't you just take it away. And if we can -- we hear 5 you fine through this machine. 6 DR. SUGAR: Okay, terrific. First of all, 7 I've asked John Young to join us. John is our 8 corporate Vice President of Contracts and Pricing and 9 has been in this game a long, long time, and has been 10 heavily involved on behalf of our company, both in our 11 internal activities as well as with AIA and other 12 industry organizations and government industry working 13 groups. So he'll be here for backup, so he'll jump in 14 and help me here as necessary. 15 Let me just preface it by saying, this is 16 informal, I don't have a formal briefing, but let me 17 run through some thoughts that might be useful to you 18 all here. And I'd like to bring it from the 19 perspective of a company which is now engaged in 20 virtually every aspect of acquisition -- hardware, 21 software, services, logistics, you name it. So we 22 sort of touch all of this. 23 Over the last 18 months or so, we've been 24 working very closely with the Army, the Navy, our 25 industry peers, and also the Air Force to look at some</p>

32 (Pages 122 to 125)

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<p>1 of the root causes, because we're as equally troubled 2 about these issues as everybody else is, and we've got 3 to find a way to do this better.</p> <p>4 We have looked at about 20 relevant 5 studies, and, you know, this is obviously not the 6 first study being undertaken. It's a little bit like 7 Ground Hog Day for you guys I know. It is for us as 8 well. But if you take a look at the studies, a lot of 9 things come back again and again.</p> <p>10 Let me share some of my personal 11 perspectives on it. I've been in this game for 35 or 12 38 years, or whatever, and from the various 13 perspectives of being a proposal manager, a program 14 manager, a division manager, and a CEO.</p> <p>15 Let me talk about maybe a half a dozen 16 things which are probably the root causes of the 17 issues, and then talk about maybe a half a dozen ideas 18 of things we might try and do better jointly, and 19 maybe take it from there. And jump in here if 20 somebody has a question or they're confused about what 21 I was trying to say.</p> <p>22 Let me start with what some of the common 23 root causes are as you look across these programs. 24 First, maybe a lack of technology maturity -- that is, 25 you start on a program before you really are quite</p>	<p>1 where you're almost doomed from the beginning, because 2 there's an expectation, and maybe a right one on the 3 part of Congress and the buyer and the military 4 service, that you actually could do what you said you 5 would do in the proposal, even though it's out on the 6 edge.</p> <p>7 Second root cause would be the 8 insufficient program funding from the very start, and 9 the funding perturbations that occur throughout. So 10 why is there insufficient program funding? Often the 11 funding is kind of invented, pulled out of the air far 12 in advance of understanding and defining the 13 technology requirements.</p> <p>14 And, frankly, in some cases it's a market- 15 based funding estimate. It's how much you think this 16 kind of a system would cost, how much could we sell on 17 the Hill, how much could we sell on the POM. And it 18 sort of becomes that's the number, and it becomes 19 almost an original sin, because that's the number, and 20 then the only other variable is all the requirements 21 and technical complexity to get the job done.</p> <p>22 But you do tend to have to work your way 23 out of that hole, and you always have to track to it. 24 And I've almost never seen a case where, from the 25 original estimate, one was ever going back to say, "We</p>
<p>Page 127</p> <p>1 sure that the technology that you're counting on has 2 been demonstrated sufficiently, and there will always 3 be unknown unknowns.</p> <p>4 Now, having said that, part of the reason 5 this country is a great military force and the 6 greatest in the world is that we're willing to push 7 the envelope, and we're willing to make sure we're 8 more aggressive in this regard than other countries. 9 And, certainly, if you look at the earlier days and 10 the '50s and the '60s and the '70s, some of us have 11 memories of those -- some of those days, some don't -- 12 this country was probably much more risk tolerant and 13 able to push the envelope.</p> <p>14 I know in the ICBM program and the rocket 15 programs we would typically go with four or five 16 launches, which would fail on the pad. One would get 17 off about 20 feet, and the famous quote was, "We've 18 now proven it can fly. We just have to work on the 19 altitude."</p> <p>20 (Laughter.)</p> <p>21 So, you know, the fact is is these kind of 22 things do happen. Anytime you're pushing the envelope 23 you're going to get it. But lack of technology 24 maturity when you enter a program today is a fatal 25 flaw, because you're basically sitting in a situation</p>	<p>Page 129</p> <p>1 think we can do it for less than this. We think we 2 can get it done faster than this."</p> <p>3 Third, and this is a specific issue 4 relative to naval shipbuilding, the requirement to 5 fully fund ship construction at the time of contract 6 award versus an advance appropriations approach, does 7 create what I call budgetary anomalies, which then 8 cause other bad things to happen, where you have to 9 totally fund a ship.</p> <p>10 You may not even have the ship designed 11 yet, but you're basically going to put the money for 12 it and fully fund the ship, which is I think the law 13 for shipbuilding. It's not the law for other things. 14 And you find yourself in a -- in a difficulty there.</p> <p>15 A fourth root cause that we see are 16 unrealistic cost estimates, overly optimistic budget 17 estimates on the part of the government, and clearly 18 optimistic estimates on the price to win proposals by 19 those of us in industry. And one of the challenges we 20 have here is that we have a fundamental structural 21 problem in that the objective of the proposal manager 22 in a corporation is to win the contract.</p> <p>23 It doesn't help you a lot to say we had 24 the best design, and we could have done it better than 25 the other guys who won. You've got to win. So you</p>

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1 have an interesting dilemma where you have believers
 2 on one side in terms of the government that want to
 3 believe that industry can do it for a certain price,
 4 and you have desperados or deceivers, or whatever you
 5 want to call them -- it's a pejorative term.
 6 So you have believers and deceivers, or
 7 believers and desperados, structurally are set in a
 8 position where they have to find a way to push the
 9 envelope to the point where they can provide the
 10 minimum credible cost to do a program if everything
 11 goes right. And so you have another -- a second
 12 original sin after the initial budgetary estimate a
 13 few years earlier in the cycle when the actual
 14 proposals go in.
 15 And, of course, you will then fund the
 16 program around the proposals, because you can't award
 17 it to company X and say, "We really should use the
 18 higher cost of Company Y." Sometimes that can be
 19 done, but often it's the basis for a protest.
 20 A fifth concern or a root cause would be
 21 uncontrolled requirements growth. And this is a
 22 classic issue; it has gotten a lot of attention. Lack
 23 of program discipline by both the contractor and the
 24 customer -- I've always told our guys that we need to
 25 be responsible contractors, not just responsive

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1 contractors.
 2 And what I mean by that is just because
 3 our customer asks us if we can cram an additional
 4 capability in, we all want to be responsive and say,
 5 "Yes, we can, and we'll try," but we also have to be
 6 responsible and say in a very timely way, "We can, but
 7 here is the consequences on cost and schedule and
 8 other implications on the mission."
 9 The very slow feedback loop between the
 10 absorption of new requirements and presenting the bill
 11 back to the customer is a source of enormous
 12 frustration and creates almost a compounding effect,
 13 an unstable feedback loop if you will. We see this on
 14 programs over and over again.
 15 I use the analogy of when I was building
 16 a house. I was the acquisition official, I had a
 17 general contractor, and my wife was the operational
 18 user. She was the person who basically defined the
 19 requirements at the end of the day, because she was
 20 going to be the one to use the house fundamentally,
 21 because I was always on the road.
 22 And I found that I was always sort of in
 23 the middle between what it is I thought she wanted and
 24 what it was I think the contractor told me that they
 25 could do. And I've gotten caught in that feedback

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1 loop personally and have been surprised and stung.
 2 We might as well do this, we might as well
 3 do that, we might as -- and it turns out that a very
 4 tight loop between her, me, and the contractor would
 5 have done an awful lot to have eliminated some of the
 6 unpleasantness that came about when we were building
 7 our house.
 8 A sixth item, and this is very, very
 9 important I think in my view, is across industry, and
 10 particularly in government now, a lack of experienced
 11 program and contract management people. That's not to
 12 say we don't have good people. We have great people,
 13 particularly in the government, and they work hard,
 14 they try hard. But we have a structural system here
 15 which is very difficult.
 16 If I took a look at my corporation, if I
 17 were to tell you what are the most cherished resources
 18 in my company, there's lots of folks. But program
 19 managers who are really good and system engineers who
 20 are really good -- that's the coin of the realm at
 21 Northrop Grumman. And so we work very hard to attract
 22 them, to nurture them, to development -- to develop
 23 them, to grow them, and to really compensate them and
 24 give them significant up side, because in my company
 25 program management jobs are the toughest jobs, and

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1 they're the ones that make or break us.
 2 We have 30,000 contracts in this company,
 3 and if we -- you know, we've got to perform on every
 4 one of them, but it takes a lot of folks doing that.
 5 If you stand back and say, "Okay. That's great. Now
 6 let's talk about the government's side of the equation
 7 where we have to have a partnership," what I see is
 8 structurally almost every disincentive you can imagine
 9 for a capable individual to want to be a career
 10 government program manager or a career government
 11 system engineer for that matter.
 12 In the civilian side, of course, there's
 13 not a lot of up side in terms of pay differential.
 14 It's enormously challenging. The frustrations of the
 15 job are horrific. The legal constraints, the
 16 regulations, the potential breaking the law, is
 17 serious. It can be career-limiting, it can be career-
 18 ending. It could, frankly, cause you to end up with
 19 legal or even prison concerns.
 20 You take a look at the military folks who
 21 are assigned to run programs, and there it's very
 22 difficult because you're basically on a rotational
 23 basis to move forward in your military career. The
 24 time constants of the programs, or, that is, the life
 25 cycles, are substantially longer than the time

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1 constant of a career assignment in the career of a
 2 military individual who is moving up the ranks
 3 appropriately. So you have a major mismatch there.
 4 I don't have an answer for that one, but you can see
 5 there's a structural problem.
 6 So kind of to wrap the root causes, and
 7 there's probably nothing you all don't know, but maybe
 8 you're hearing it through my wording, is the issue of
 9 the technological maturity, really knowing what you're
 10 doing before you really jump into the pool. The
 11 concern about the structural problem of the cost
 12 estimates are almost always wrong going in, and create
 13 an unexecutable program.
 14 And then, finally, the structural problems
 15 associated with program and contract management, on
 16 both sides but particularly exacerbated on the
 17 government's side I think in recent years.
 18 So with that as background, maybe some
 19 thoughts about what we can do better here, several
 20 potential solutions we've thought about. And first of
 21 all, with respect to the technology maturity issue, I
 22 think we really do need to continue to expand the use
 23 of evolutionary acquisition and spiral development,
 24 and introduce risk incrementally.
 25 I know the term "spiral development" was

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1 a fad for a while, and maybe now it's not the fad.
 2 But the fact is you can't take everything in one big
 3 bite. I've worked on many spacecraft programs where
 4 as long as you're going to do this you might as well
 5 add this, you might as well add that, you might as
 6 well add this additional downlink, you might as well
 7 have this additional readout. And before you're
 8 finished, you've got this -- everybody wants to catch
 9 the bus before it leaves, and sometimes it's hard to
 10 do that.
 11 On the other hand, you don't want to build
 12 something which has no growth path in it as well. So
 13 there's a -- there is a very thoughtful way which
 14 experienced and capable people -- the government and
 15 NCSI working together can work to create an
 16 evolutionary path for a weapons system or a program
 17 which could allow you to bite off chunks of risk.
 18 And, Ron, I think one example we got as we
 19 talked to some of our guys, you will remember on the
 20 FTSS program I think there was a variety of folks who
 21 wanted to jump in and say, "As long as you've got to
 22 FTSS up there, you could do other missions with it,
 23 and add this and add that."
 24 And I don't know if it's true or not, but
 25 it's attributed to you that you basically said you

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1 drew the line and said, "No, we've got to build a
 2 basic system to the mission we have. And if later
 3 people want to use the data for other things, so be
 4 it." And that program is actually moving along pretty
 5 well right now relative to most.
 6 A second suggestion on the budgeting
 7 programs, we would propose budgeting these things to
 8 the CAIG estimates. The CAIG is not that far off
 9 usually, and I think source selection boards ought to
 10 perform detailed risk analysis.
 11 I've discovered, to my surprise, in some
 12 of our very large ship programs that we inherited when
 13 we acquired Newport News and Lytton that the ships
 14 were targeted -- or budgeted to target numbers, and
 15 that targets, as you go back and talk to people on
 16 both the government side and industry side, everybody
 17 said, "Well, we knew we couldn't do it for that.
 18 That's why we had the share line."
 19 So that at the end of the day the
 20 contractor could get some kind of a return on his
 21 investment, and we could get the program sold and
 22 started. And yet as you get toward the end of the
 23 program, there's shock, disbelief, horror,
 24 recriminations that, my God, you've exceeded the
 25 target. And did you know that we only funded it to

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1 the target?
 2 And then, you think, "You did what?" And,
 3 in fact, you have a structural problem within the
 4 budgeting/funding process. So here budgeting to a
 5 most probable outcome, which in my view should be
 6 nothing less than an 80/20, maybe a 90/10.
 7 We all talk about 50/50. I have never
 8 seen a 50/50 estimate in this industry ever happen.
 9 Ever. I mean, it's not like 50/50. It's like 100
 10 percent of the time it never happens. So when people
 11 say, you know, "We're going to fund this thing to the
 12 50/50, or we've got a 50/50 plan," I think we should
 13 all be -- it's obviously jaundiced.
 14 In addition to this, we have a problem in
 15 that you really do have to put management reserve in
 16 at several levels to make sure you can run the
 17 program, and control the decisionmaking at the lowest
 18 level possible, so that you don't have a situation
 19 where all management reserve is stripped.
 20 The program is then executed in the
 21 beginning, and the first blip one year into the
 22 program becomes a matter for congressional staffers to
 23 get involved in. And congressional staffers have
 24 enormous power, intellect, and ability to penetrate,
 25 but you cannot effectively run a complex weapons

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<p>1 system program from the congressional offices. 2 And so what you really do need to have is 3 management reserve at the contractor level that is 4 understood and responsibly managed, and management 5 reserve at the program office level which is not 6 directly in the contractor's purview, and then you 7 have a total commitment you have to make to Congress 8 and our taxpayers on what we're going to do this thing 9 for. Otherwise, you're basically starting the program 10 up guaranteed to fail, and most do because of those 11 reasons. 12 With respect to the third comment I had on 13 ship construction, there I think there's a variety of 14 approaches to do advance appropriations, and those 15 ideas have been around for a while. The problem with 16 ship budgeting is that ships come in large lumps in 17 aircraft carriers, a \$4-, \$5 billion lump. It swamps 18 a budget. 19 And even though the outlays are routable 20 over multiple years, the budgeting process is highly 21 contorted, and it creates, you know, almost self- 22 inflicted budgetary wounds, because you can't fund 23 anything else, and you create -- even though you don't 24 have an outlay problem in subsequent years, you create 25 a budgeting problem.</p>	<p>1 almost need to do that. 2 And I recognize the procurement 3 regulations may create a difficulty around that. But 4 when you have a procurement system which puts an 5 enormous premium on the most credible-looking 6 proposal, which even though it may not be completely 7 executable wins, then once the day is over where the 8 decision is made on who is going to do it, you've 9 really got to have an executable program. 10 So the fifth item here, which we've tagged 11 onto that, is to execute post-award government 12 contractor jointly based on requirement reviews in 13 order to -- to add to the integrated baseline reviews 14 you have, really stand back and say, "Now, what do we 15 really need? What do we really want? And how does 16 that loop back with the cost?" 17 One of the things I found when I was a 18 system engineer working on some complicated programs 19 is that if we could very quickly come up with ROM 20 estimates of cost and schedule impact for the "what 21 if" questions in a very fast loop, the acquisition 22 person who was trying to satisfy the needs ultimately 23 of an operational user or requirements generator would 24 have a much better sense of whether it was bigger than 25 a bread box or it could fit inside the bread box, and</p>
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<p>1 Fourth comment here in terms of risk 2 management, we talk about doing a -- you know, a CAIG 3 estimate or most probable estimate on cost. We should 4 do a technical estimate of technology risk as well 5 before we launch a program. And particularly, after 6 the proposal is over, it's almost like getting a 7 period of amnesty. You know, you've won the job, 8 everybody is giving each other the high fives, you're 9 ready to move out and really think about putting 10 together a process where everybody comes clean and 11 says, "Okay. Now, how are we going to execute this 12 program?" 13 Just as an analogy for you all, we've 14 acquired 22 companies over the last 10 or 12 years, 15 and each company makes a presentation to us of how 16 good they are and all the great things they're going 17 to do, and how good their contracts and profits are. 18 After the acquisition is closed formally, 19 we then bring everybody here to headquarters, and we 20 have basically a confessional where you say, "You get 21 one mulligan. Tell us everything we need to know 22 before we get going." And it's amazing. Things come 23 out that you're going to find out sooner or later, but 24 you'd rather know them sooner and then you can 25 basically deal with them and mitigate them. You</p>	<p>1 would know whether to really push back and test the 2 requirement. 3 All requirements come -- in my experience, 4 they're all important. At the end of the day, you 5 know, life is a compromise, and nobody wants a program 6 that's out of control, cost or schedule-wise. And so 7 a technique of the game here, a tool of the trade, is 8 to have really good system engineering, a rapid loop 9 to quickly assess changes, potential changes and give 10 consequence to them before we say we're going to go do 11 them. 12 This would be a normal change control 13 board or configuration control board process. The 14 problem is that it takes sometimes months and months 15 to come back with the answer. And when you get the 16 answer you say, "Holy cow, I can't afford that 17 requirement. Why are we doing that?" And already 18 you're moving on with implementation. 19 Let's see, final comment is regarding 20 program management training and certification. 21 Clearly, doing more work there in terms of joint 22 contractor and government program management training 23 Certainly, the industrial -- I guess what do we call 24 it, the War College, we call it the -- 25 MR. YOUNG: DAU?</p>

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<p style="text-align: right;">Page 142</p> <p>1 DR. SUGAR: Yes, Defense Acquisition 2 University. Yes. Those are good programs, and it's 3 great to have people from both industry and government 4 together in them. But I think there's another issue 5 that has to be looked at, and it's a serious one, and 6 that is: why in the world would any really capable 7 person choose to make a career -- I'm not being 8 cynical here, but we should ask the question: why 9 would a really capable person choose to make a career 10 of being a government program manager? 11 What would be the inducements for doing 12 it, the psychic income, the monetary income, and what 13 would be the personal risks in terms of your health, 14 the stress, the potential ruin of your career? And 15 how do we put that more in balance, so we can really 16 encourage and create a cadre of folks who are willing 17 to do that? 18 I mean, if you think about it, even being 19 able to create a mechanism where people who were 20 successful program managers in industry would be 21 willing to serve in the government for a few years, 22 doing that, maybe in a different area, so there 23 wouldn't be a conflict of interest, would bring 24 enormous value. 25 And somehow with all the regulations and</p>	<p style="text-align: right;">Page 144</p> <p>1 your ability to perform and evaluating the technical 2 content. 3 But to avoid this incentive that's at 4 least implied in my terms, for both the government and 5 industry to buy in early, to sell the program, you end 6 up with low estimates from both sides, and perhaps 7 even a little bit of optimism from the CAIG. Is there 8 any mechanism that you can see to take cost out of 9 that evaluation process and then bring it in at a 10 later date and say, "Okay, guys, now let's talk 11 dollars." 12 DR. SUGAR: Well, there are two thoughts 13 that come to mind there. One is -- and, again, I'm 14 not an expert. John Young could probably help me 15 here. But one is that in the good old days I do 16 remember some black programs. We would win the 17 program, and then we'd have our sit-down meeting, and 18 the program manager would say, "Okay. You guys -- it 19 was a great proposal. Here's how much money I 20 actually have. Here's how much I'm going to hold 21 back. I want you to build a program around this. 22 "We're going to give you a couple of ECPs, 23 so you can do this, but I want you to, as you do this, 24 carve out adequate management reserve as we give you 25 these incremental costs, so that you can realign your</p>
<p style="text-align: right;">Page 143</p> <p>1 rules and oversight we've got to find our way through 2 this, because at the end of the day we can do these 3 things I suggested, and we can improve processes, but 4 the caliber of the people has to be high, their 5 motivation has to be high, their morale has to be 6 high, because at the end of the day they have to be 7 sophisticated. And if they're not sophisticated 8 buyers, we're going to fail. 9 I've always said I'd rather be working 10 with a government program manager who is tough, hard 11 as nails, experienced, and smart, than one that is 12 really friendly and nice and will do what I say, 13 because at the end of the day we won't get the job 14 done. So at any rate, those are some initial 15 thoughts, and maybe I should stop talking at this 16 point and open it up for any questions or critique. 17 CHAIRPERSON KADISH: Ron, that was very 18 helpful and very, very well done in terms of going 19 through those things. Let's open it up for questions. 20 Anything from the panel? 21 MR. KOZLOWSKI: I've got one. Dr. Sugar, 22 do you think there would be any benefit in trying to 23 totally separate cost in the source selection process? 24 To a certain extent, people try to keep it as a 25 separate issue as opposed -- in contrast to evaluating</p>	<p style="text-align: right;">Page 145</p> <p>1 program budget, so that you have an executable program 2 and you never have to come back and bother me. But 3 I'm holding a cushion, so we never have to go back and 4 bother the Congress." 5 Now, that's difficult to do these days, 6 but, you know, that's one possibility. Let me give 7 you a side analogy, and this is -- for those of you 8 who have worked with the NRO years ago, which I did, 9 and I apologize for being a little bit -- this is a 10 little bit cartoon, but it's almost true. We would be 11 building a highly classified satellite program. The 12 NRO would come to us and say, "What do you think it 13 will cost?" We'd sit there and we'd say, "Well, we 14 know these guys have a lot of money, and they want to 15 get it done right, so it'll cost X." 16 And the NRO would say, "Thank you very 17 much." They'd go back and tell the Congress 2X. We 18 would then diligently execute our program that we 19 thought we had covered pretty well at X, and come in 20 at 1.5X. And the remaining .5X would be reallocated 21 continuously by the NRO for incremental improvements, 22 for advanced technology on receivers and deployment 23 mechanisms, and so that the -- you had kind of a 24 reinvestment account, and they'd come in totally at 25 1.9X and Congress would think that's great, and</p>

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1 everybody was happy.
 2 And that was until they discovered the
 3 building, which, as you know, that's a different
 4 story.
 5 (Laughter.)
 6 But for those of you who know what I'm
 7 referring to down in Westfield -- now this story, I
 8 hate to be quoted, but this is the way it was. And,
 9 you know, for many years the NRO was cited as the
 10 paragon of virtue in terms of how you really run
 11 programs.
 12 But I will also tell you that the
 13 contractual incentives in our corporation -- and I was
 14 a TRW guy in those days, one of our predecessor
 15 companies -- the very highest returns for our company
 16 could be made on that. The most exciting advanced
 17 technology was being pushed by that. And as a result,
 18 the A team only found its way onto the NRO programs,
 19 and I thought that was kind of interesting.
 20 Now, sometimes that's not always true
 21 anymore, and every company says they only have A
 22 teams, but the reality is that that's what happened.
 23 A second reaction to your question is
 24 we've gone through a source selection a couple of
 25 years ago for the kinetic energy interceptor. Ron

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1 knows this. There was a very interesting model used
 2 there wherein part of the source selection process was
 3 kind of living together for a while.
 4 So, in other words, the premium on being
 5 able to write the absolute spiffiest proposal was not
 6 anywhere near the sole criteria for award, as it often
 7 is. We and the other team basically ran in parallel,
 8 and the program manager worked with us, and his team
 9 worked with us. They even have -- they assigned an
 10 ombudsman to us, whose purpose it was to be our guide
 11 to help us to try and have us understand what the
 12 government was really thinking.
 13 And by the time, at the end of the day,
 14 the source selection team could make a decision not
 15 only on what they had in front of them -- and they
 16 didn't have a huge proposal. I don't think we killed
 17 any forests. I think there were some briefings and
 18 some obligatory cost stuff. But they really knew who
 19 they were working with, how we thought, what we did,
 20 and they knew what they were getting. And cost was
 21 somewhat of an independent variable from that.
 22 So that was a second way to do it, and I
 23 would -- and I think the program is going fine with
 24 respect to that. Obviously, we're trying to get the
 25 Congress to fund more of it. I thought that was a

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1 unique approach. I'm learning -- I learned today that
 2 for the crew excursion vehicle that NASA is looking at
 3 doing they might do something similar.
 4 I don't know if they picked this up from
 5 MDA or they just invented it themselves, so they might
 6 actually work with both teams for six or eight months
 7 hand in hand to know what the hell they're getting.
 8 But that's, you know, a long answer to your question
 9 of how you might decouple costs in two potential ways.
 10 CHAIRPERSON KADISH: Ron, let me put you
 11 on the spot. We're kind of asking everybody the basic
 12 question about the cost overruns. And you outlined it
 13 here in your discussion, but I'd like to go back in
 14 terms of responsibility or accountability for the
 15 overruns on programs. Could you reiterate a little
 16 bit more about what the industry's accountability for
 17 these troubled programs are?
 18 DR. SUGAR: Well, it's significant, and I
 19 will be the first to tell you that we are a big part
 20 of the problem. Let me talk about the industry
 21 problems here. First of all, it starts with the
 22 structure of the initial contract, which is often what
 23 I call the original sin.
 24 And even if we weren't in a highly
 25 competitive situation, we would probably naturally

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1 find ourselves being optimistic, because you don't
 2 plan something to be a failure. You plan something to
 3 be successful, and engineers believe they can do
 4 things, and everybody is mindful and conscious of cost
 5 and that sort of thing.
 6 You just don't know about the unknown.
 7 You can precisely measure the things you know. You
 8 can't measure the unknowns and the unknown unknowns.
 9 So there is a natural human tendency there.
 10 There is often a sloppiness on the part of
 11 companies once you win the program not to put your own
 12 gate reviews in place to make sure at 60, 90, 120 days
 13 that you really have done what you said you'd do in
 14 the proposal. That is, you've staffed it up in the
 15 staffing curve correctly, you got all the right A team
 16 players in the right jobs as soon as you said you
 17 would, you've got clarity from the government that the
 18 requirements are what they are, you've agreed to a
 19 master schedule that -- in some cases that you've
 20 pushed responsibly back on your customer to make sure
 21 the GFE and the other kinds of things they're going to
 22 come with are going to come, and that you have tested
 23 the requirements to make sure that you're not off
 24 designing something at the corner, corner, corner
 25 condition of a spec envelope, which will cost a

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1 fortune but not add any significant additional value
 2 for the system.
 3 And then, frankly, there's just good
 4 program management and bad program management. You
 5 know, everybody talks about TSPR was bad, and, you
 6 know, every single construct that we've had has been
 7 good and bad. And sometimes the difference has just
 8 been the quality of execution by a given contractor on
 9 a given program.
 10 There are some programs which are just
 11 badly executed, because the team wasn't the right team
 12 or they were busy or they had other things in the
 13 company, or the company didn't have a good system
 14 engineering culture. So that, you know, one of the
 15 biggest problems we have on several current programs,
 16 certainly a state program I'm familiar with, is that
 17 the system engineering was never really done.
 18 And so with inadequate system engineering
 19 you will spend a lifetime trying to dig out from under
 20 that, and not enough attention paid at the front to
 21 that by either the contractor or, frankly, by the
 22 government demanding it. So we're guilty.
 23 And, frankly, our objectives are to make
 24 things work and deliver good stuff, and also to make
 25 sure that our shareholders, you know, keep our company

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1 in business. So we have to make a return on these
 2 things.
 3 I will tell you that there are -- the
 4 incentives for the business are not significant. If
 5 you look at the profitability of the industry relative
 6 to most other industries, you can see why we garner
 7 the low price earnings multiples we do. And as long
 8 as we have some predictability in what we can return
 9 to our shareholders, we'll have a shareholder base.
 10 If you go back to the days when we had
 11 fixed price development contracting, and everybody was
 12 betting their company on the next airplane contract,
 13 I mean, that was a disaster. At the end of the day I
 14 don't think it saved the government any money. There
 15 were certainly a lot of lawsuits. I know we had a
 16 bunch. We still have some pending.
 17 But there is significant accountability on
 18 our part for overruns, failing to do what we said we
 19 would do, and being too optimistic in going into it.
 20 MR. YOUNG: If I could just add one
 21 comment to that, because I think if you go back, even
 22 before Ron's original sin, it really starts with the
 23 amount of funding that has been budgeted, not
 24 necessarily funded on the program but actually
 25 initially budgeted in a POM.

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1 And I think collectively we share
 2 responsibility there in developing numbers that aren't
 3 well thought out, don't have a rigorous process for
 4 developing those numbers. It's done well before
 5 requirements are even defined by the user, and yet
 6 that really forms the basis for everything going
 7 forward -- the RFP that comes out, the funding lines
 8 that are in them, and the program execution that pays
 9 the bill for delivering the products.
 10 So if we had a much more rigorous process
 11 for developing the budget that goes into the POM, I
 12 think we would start out with a funding level that is
 13 more commensurate with the requirements that are being
 14 developed.
 15 CHAIRPERSON KADISH: Okay. That --
 16 DR. SUGAR: One final comment I would make
 17 is if I look at all the programs that I've been
 18 familiar with over the years, and try and integrate
 19 over those, you know, I think you had some statistics
 20 I saw in some of your literature that the average
 21 program overrun is like 25 percent or something like
 22 that, maybe 50 percent in some cases.
 23 And then, there's the really bad ones, and
 24 those are the ones that are really painful for all of
 25 us, and they're the horrible ones. And those horrible

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1 ones often tend to be the ones where the technological
 2 maturity or understanding was not quite there on the
 3 part of the contractor. And, again, the government
 4 has a -- or should be a sophisticated observer, was
 5 not able to really penetrate down to that level.
 6 And then, when you get into a situation
 7 where the technology can't quite get there, you can't
 8 have a cost and schedule baseline. I mean, you really
 9 don't, because you're kind of waiting for the next
 10 breakthrough. In my old days, I was the chief
 11 engineer of the MilStar payloads, and then the program
 12 manager down at TRW.
 13 And we had requirements that, you know, we
 14 came in in the morning saying, "Holy shit. How are we
 15 going to invent this -- this is a new invention." And
 16 we had about 10 of those going at the same time. And
 17 we got through it eventually.
 18 The program was supposed to be launched
 19 four years and three months after award. And it was
 20 launched I think 11 years after award, and it cost at
 21 least two or three or four times as much as was
 22 initially -- it was horrible, but there was enormous
 23 technological uncertainty in it.
 24 Other programs where you have the 20 to
 25 25, 30, 40, 50 percent, tend to probably not be as

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1 technologically driven. They're just -- just the
 2 normal bad management issues.
 3 CHAIRPERSON KADISH: Yes. Let me turn to
 4 workforce a little bit. One of the things that we see
 5 and maybe assert is that the rise of the acquisition
 6 strategy in LSI, for instance, is a remedy for the
 7 government, or at least a perceived remedy for the
 8 government for lack of this type of workforce and
 9 talent. What is your view of the LSI type constructs
 10 that people are contemplating and using? And can you
 11 give us your perspective on what would make them work,
 12 or is there another approach?
 13 DR. SUGAR: Yes, I think you're right,
 14 Ron. I think LSI is a remedy for perceived, and
 15 probably real in some cases, lack of workforce talent
 16 or talent retention or experience in a government
 17 organization.
 18 You know, it -- there's not a lot of good
 19 ways to do -- let me take an example, which is not
 20 DoD. It's the Coast Guard. Tremendous service, most
 21 dedicated people you'll ever work with. Every 30
 22 years or so they have to recapitalize the fourth
 23 largest Navy and Air Force in the world. They're in
 24 the process of doing this now in Deep Water.
 25 And, you know, clearly the Coast Guard has

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1 not carried for 30 years the acquisition
 2 infrastructure of the DoD. And so they've had to go
 3 to an approach like that, which they've gone to, and
 4 even that's getting questioned by some. You know,
 5 there may not be any other choice. In the case of
 6 FCS, the Army made a decision that for something of
 7 the scale of FCS they had to go to an industry LSI,
 8 the Boeing/SAIC combo.
 9 You know, for smaller programs, there's
 10 only a certain number of super-major intergalactic
 11 programs. I think it's certainly in the government's
 12 interest to have as much capability on its side of the
 13 fence as possible, even if it uses LSIs, because
 14 you're going to have to have people who are able to go
 15 toe to toe with the LSI. And I don't mean that in a
 16 combative sense, but, you know, again, to be a
 17 responsible buyer as well as, you know, a responsible
 18 seller.
 19 I think this workforce talent is a plague
 20 throughout the industry. I will say that in the
 21 industry side we worry about attracting and retaining
 22 the best and brightest people in our industry versus
 23 other places they can go. The only thing that does
 24 that is exciting work and not overly burdensome or
 25 grueling down side relative to what they end up having

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1 to deal with every day in terms of, you know,
 2 bureaucratic oversight.
 3 I can't imagine how we solve the problem
 4 on the government side, because we have not been able
 5 to use pay as an enormous differentiator. I think we
 6 have some places where pay is being used as a
 7 differentiator. Career advancement, career
 8 recognition, and particularly for the uniformed
 9 services -- I think the Navy has an engineering duty
 10 officer track. I'm not sure if the other services
 11 have quite the same level of ability to keep moving
 12 people up through their ranks.
 13 And certainly for an officer to stay in a
 14 program for four to five years, to be able to see the
 15 life cycle consequences of the decision they made, see
 16 how it plays out, that's -- you know, that's a rare
 17 enough commodity in industry. But, you know, you
 18 think about guys two years on and off, over to the
 19 next guy, here are your viewgraphs, you brief it next,
 20 you don't have any clue what decisions you've made and
 21 what it has done.
 22 CHAIRPERSON KADISH: Yes.
 23 DR. SUGAR: And LSIs do provide the
 24 continuity, so maybe it's a necessary evil for the
 25 biggest of jobs.

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1 CHAIRPERSON KADISH: Okay. One final
 2 question from me, and it has to do with competition in
 3 the industry. As we look at the restructure of the
 4 industry over the past 15 years, certainly you have
 5 been in the middle of that, and it -- and there has
 6 been a lot of vertical integration in the process.
 7 Under those circumstances, do we, in fact,
 8 have viable competition in the areas we need it?
 9 DR. SUGAR: Well, I certainly feel we do.
 10 We feel like we're in the arena every day, and feel
 11 significantly that every day we've got to go out
 12 against not only our -- we, Boeing, and Lockheed are
 13 the three majors, and we're always up against them on
 14 something. But we operate at other levels as well.
 15 We are always up against Raytheon, we're up against
 16 SAIC, we're up against CSC, we're up against -- you
 17 name it -- General Dynamics.
 18 So with the exception of a few programs
 19 like aircraft carriers, which since the late '50s
 20 there's only been one place you can build them,
 21 because it's not cost effective to have multiple
 22 yards, we're in a competition mode all the time.
 23 We've structured our company, while we have the
 24 capability to be a systems player, we also have the
 25 capability to be a subsystem provider.

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1 And so what we've done is we've
 2 established a model where we are a merchant supplier
 3 as well as a subsystem -- a system-level competitor.
 4 So we've told our -- for example, our electronic
 5 systems folks in Baltimore, who build radars, that
 6 they are in a position where they ought to be able to
 7 figure out how they can not only support the rest of
 8 Northrop Grumman but support a Lockheed or a Boeing on
 9 a competition.
 10 And we were doing that before a consent
 11 decree was put in place after we acquired TRW to that
 12 regard. We think that's a vigorous model. So I think
 13 the answer is we sure feel a whole lot of competition,
 14 and we sit here looking at a declining pot of
 15 investment account money. And I think we and my peer
 16 CEOs are all saying, "How do we ensure that we get
 17 more than our share of it?" So I think competition is
 18 alive and well.
 19 CHAIRPERSON KADISH: Anybody else?
 20 MR. HAWLEY: Yes, I've got one I'd like to
 21 add. This is something that you may want to take as
 22 an action item and then follow up with the panel in
 23 writing. But one of the things we're beginning to ask
 24 all the industry participants: is there anything that
 25 you know of in the regulatory arena, whether it's Cost

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1 Accounting Standards, DFARs, FARs, whatever, that
 2 would inhibit your investment or the financial moves
 3 you make within your own preparation that would reduce
 4 cost?
 5 And the second part of it is, same
 6 question relative -- what's inhibiting you or helping
 7 you in terms of making a decent profit?
 8 DR. SUGAR: Yes, those are great, great
 9 questions. Let me give you an off-the-cuff and do a
 10 follow up with a more fully thought out -- we think a
 11 lot about this.
 12 You know, let me give you an example. We
 13 have pumped hundreds of millions of dollars of capital
 14 investment into our shipyards in the last several
 15 years in anticipation of the rejuvenation of the
 16 United States Navy from a 200-and-some ship fleet back
 17 to a 300-and-some ship fleet, only to discover that
 18 that's not going to happen.
 19 I can't tell you how difficult that is for
 20 me and our shareholders and our investors as I try to
 21 explain why we've had to put so much capital into a
 22 business which has -- you know, it's going to be our
 23 slowest growing business, maybe a declining business,
 24 because the number of ships purchased, highly capital
 25 intensive, unstable predictability of funds, and,

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1 frankly, profit margins are not great. They're
 2 certainly not great relative to other things our
 3 investors could do with their capital.
 4 So certainly stability of funding and
 5 programs would be very helpful, and that's one of the
 6 issues that we're undertaking with the Navy at the
 7 senior level to say, "Hey, can we establish for, say,
 8 shipbuilding a certain amount of money each year we're
 9 going to use to build ships and hold the program
 10 constant, so we don't have to hire and lay off
 11 thousands and thousands of people every other year."
 12 There's a variety of other things in terms
 13 of impact on this, such as the issues of the Safety
 14 Act where, you know, we had this 85804, the Safety Act
 15 has been passed. And it does provide some additional
 16 risk to the corporations where you're not going to bet
 17 your corporation to go do something, even if you want
 18 to be patriotic about it. And we can follow up with
 19 some information for you on that.
 20 You know, I will tell you that while --
 21 from the government's side a contract has executed a
 22 certain number of dollars for fee, the fee associated
 23 with that is part of total cost. For us, the returns
 24 or the margins are the basis for which our investors
 25 will invest in us.

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1 And we need to find a way -- we have to
 2 perform better, of course, but we need to find a way
 3 structurally to make the returns more attractive, so
 4 that we will be able to attract capital more -- at
 5 more favorable rates, and, by the way, attract human
 6 capital along with that.
 7 And that is a national security
 8 imperative, because over time if the industry is not
 9 more profitable -- and I know everybody is concerned
 10 about the fact that defense contractors have cash, but
 11 I will tell you that on the basis of what you and I
 12 could invest in as we choose mutual funds or
 13 companies, it ain't the best investment.
 14 If we can make it more profitable, over
 15 time we'll get more capital attractive and better
 16 human capital. And if we don't, we'll see an erosion
 17 and a hollowing out, and that will not be good for the
 18 nation in five to ten years.
 19 So there -- that's a short answer to your
 20 question, but why don't we take that aboard and shoot
 21 you a little more thoughtful result.
 22 MR. HAWLEY: And I encourage you to be
 23 innovative or just open the box when you look at it.
 24 Such things as if the government doesn't fund you as
 25 you anticipated in your long-range strategic planning

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1 at some minimal level, then maybe there has to be a
 2 way for you to recover some of that investment.
 3 DR. SUGAR: Yes, that's the risk we would
 4 typically take. And if it's a pure program
 5 cancellation, you have term liability, although you
 6 don't always get well on that. You just kind of --
 7 you hope you can break even, but it's almost like
 8 you're talking like a pro rata term liability
 9 consideration.
 10 And, by the way, if that were the case, it
 11 would probably put a great deal more discipline in the
 12 funding of POMs and the future planning that goes on
 13 inside the building, because people would know that
 14 there might be consequences to the fact that every
 15 single program has a growth wedge, all of which can't
 16 be sustained five years from now.
 17 MR. KOZLOWSKI: One final note. Tell Mary
 18 Simmerman I said hi, and I congratulate her for moving
 19 up in the Northrop organization.
 20 MR. HAWLEY: And who is this that's
 21 speaking?
 22 MR. KOZLOWSKI: Don Kozlowski.
 23 MR. HAWLEY: Oh, Don. Okay.
 24 MR. KOZLOWSKI: She used to work for me on
 25 the C-17.

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1 MR. HAWLEY: Oh, great. Yes, Don. Yes,
 2 well, she has done a terrific job and we're really
 3 happy to have her.
 4 MR. KOZLOWSKI: She's quite a gal.
 5 CHAIRPERSON KADISH: Okay. Dr. Sugar,
 6 thank you for your time and interest in this. It's
 7 been very helpful. We may come back to you with some
 8 specifics, but it was well worth your time as far as
 9 we're concerned.
 10 DR. SUGAR: Okay, Ron. Well, I was happy
 11 to be part of it. We've all got to make this thing
 12 better, so don't hesitate to call us again.
 13 CHAIRPERSON KADISH: All right. Thank you
 14 very much.
 15 DR. SUGAR: Okay. Bye.
 16 CHAIRPERSON KADISH: Okay. We'll take a
 17 10-minute break.
 18 (Whereupon, the proceedings in the
 19 foregoing matter went off the record at 6:14 p.m. and
 20 went back on the record at 6:25 p.m.)
 21 CHAIRPERSON KADISH: I'd like to welcome
 22 Jim Albaugh, who I don't think really needs an
 23 introduction to this group, from the Boeing Company.
 24 And we welcome you, and also appreciate you being here
 25 at this late hour to talk to us on this very

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1 interesting subject.
 2 What's amazing to me is we're not losing
 3 our audience.
 4 (Laughter.)
 5 So it must be an interesting session. But
 6 welcome, Jim, and appreciate your -- you participating
 7 at this. So please proceed, and then we'll ask you
 8 questions.
 9 MR. ALBAUGH: Okay. Well, thank you,
 10 General, and thank you members of the panel. I do not
 11 have any charts, so what I thought I would do is just
 12 read a statement here that has some of the issues that
 13 we think we need to take a look at, and then, again,
 14 open it up to questions and answers.
 15 You know, first, thank you for providing
 16 Boeing and our industry with the opportunity to share
 17 our insights, perspectives, and recommendations as you
 18 review and assess the Department of Defense's
 19 acquisition process. The subject of how the DoD
 20 acquires the necessary capability to carry out its
 21 mission is always important.
 22 And, clearly, as we sit here today,
 23 there's an added sense of urgency given that we are a
 24 nation at war -- a war that is challenging how the DoD
 25 is organized, how it's equipped, and how it fights --

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1 fundamental issues that the Secretary of Defense and
 2 each of the services is dealing with on a day-to-day
 3 basis.
 4 In this regard, it's essential that the
 5 acquisition process be relevant in terms of timing,
 6 efficient in terms of resources, productive in terms
 7 of outcome, and open and honest in terms of process.
 8 We must have an acquisition process that is fast. By
 9 that, we mean getting products and systems developed
 10 tested, produced, and deployed to the warfighter
 11 quickly; reliable, which means securing systems and
 12 services that perform; flexible, and by that we mean
 13 adapting to the changing circumstances and threats;
 14 efficient, which means paying no more than is
 15 absolutely necessary; and accountable, which assures
 16 the procurements are consistent, open, fair, and
 17 honest.
 18 I know the panel will dive deeply into
 19 specific programs, processes, organizations, and
 20 charters. In the interest of the late hour, I'd like
 21 to focus just on three general themes if I could --
 22 speed and adaptability, performance and results, and
 23 public accountability.
 24 There's no question that today's threat
 25 environment demand speed and adaptability. Everyone

<p style="text-align: right;">Page 166</p> <p>1 wants the process to move faster, to be more 2 efficient, and to provide the right capabilities. To 3 this end, the process should limit unnecessary 4 constraints. We must create more trade space and not 5 less.</p> <p>6 Programs and contracts need flexibility to 7 effectively deal with evolving technology, 8 requirements, and program risks. The ability to trade 9 capability for cost and schedule can lead to faster 10 fielding of capabilities at a reduced cost.</p> <p>11 The current process is designed to make 12 all development and procurement fit a common mold, and 13 there is minor tailoring, but it really isn't set up 14 to be as flexible as it needs to be. What is needed 15 is a process that is risk-based with focus on managing 16 risk as balanced to a schedule cost and requirements 17 drivers.</p> <p>18 In addition, the process should enforce 19 the use of open systems and common standards. Open 20 systems and common standards will maximize the number 21 of potential competitors, and, thus, the number of 22 potential solutions. Common standards and open 23 systems will also minimize single-point failures or 24 being locked into one particular approach requiring 25 costly redesign for upgrades. It will also drive the</p>	<p style="text-align: right;">Page 168</p> <p>1 the maturity of technology, are essential ingredients 2 to success.</p> <p>3 My experience is that the regrettable 4 irony of new programs is that after award the customer 5 often feels a sense of buyer's remorse, and, thus, 6 drives to get more for less. And the contractor, and 7 I count ourselves as guilty of this in the euphoria of 8 a win, is willing to assume and promise risk away. 9 The result: the beginning of mutual disappointment.</p> <p>10 Third, budgeting to realistic estimates is 11 absolutely essential to meeting expectations and 12 delivering the capability necessary. In this regard, 13 the CAIG estimates are a useful starting point. 14 Related to this, major programs need a mechanism to 15 avoid funding of all contingent liabilities.</p> <p>16 Creating funding reserves at the expense 17 of program scope and schedule to cover liabilities 18 with very little probability of occurrence limits 19 program flexibility and often results in inefficient 20 and short-sighted decisions, and in my experience has 21 been the money generally comes out of risk reduction.</p> <p>22 Creating a global reserve above the 23 program level would be preferable and more effective. 24 And, of course, funding stability is a major factor to 25 success.</p>
<p style="text-align: right;">Page 167</p> <p>1 needed interoperability and support jointness. 2 Finally, we must invest in critical skills 3 and retention incentives to ensure that the 4 acquisition force is knowledgeable of the constantly- 5 changing circumstances of the technology operations 6 and business practices, and that they are empowered to 7 make decisions.</p> <p>8 Moving on to performance and results, any 9 process is ultimately judged by the results it 10 produces. Our presence here today reflects the view 11 that performance and results can, and should be, 12 improved. And let me touch on a few areas for 13 improvement.</p> <p>14 In our view, the acquisition process 15 should establish a limited number of success measures, 16 set realistic performance requirements, and identify 17 risks, and then budget to realistic estimates. In 18 each area, the government and contractor must be 19 partners at some level versus adversaries. The common 20 goal is to deliver the required results.</p> <p>21 First, establishing reasonable measures of 22 success, mutual expectations, respective 23 responsibilities, and clear metrics is a key. Second, 24 having realistic and achievable performance 25 requirements while addressing upfront risks, including</p>	<p style="text-align: right;">Page 169</p> <p>1 Finally, and perhaps most important, it's 2 essential that the implementation of a new acquisition 3 process restore public trust. And let me say here 4 that the Boeing Company clearly understands that trust 5 is earned and can be lost, with great impact on 6 individuals, companies, and the defense establishment 7 as a whole.</p> <p>8 Accordingly, it is clear that the process 9 must be transparent, allowing policymakers and the 10 public to have faith that tax dollars are being spent 11 wisely and honestly. Past performance, company 12 conduct, objective metrics, are critical components of 13 this transparency.</p> <p>14 In parallel, however, it is also important 15 that the process ensure appropriate return for good 16 performance. Clear measures of success, fair 17 assessment of risks, and award fee potential 18 consistent with risk and performance are essential to 19 a profitable and capable defense industry that has the 20 talent, technology, and management to provide world- 21 class capabilities.</p> <p>22 In summary, the acquisition process should 23 be adaptable and geared to meet immediate, short-term 24 and evolutionary needs, built around realistic 25 achievable requirements, performance-based, and</p>

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1 designed to address risk, and open and honest to
 2 restore public confidence in the process.
 3 Boeing is very privileged to be a defense
 4 contractor and very willing to be part of this process
 5 that we're starting today. And in closing, I'd like
 6 the panel to convey my thanks to Secretary England for
 7 chartering this assessment, and our pledge to assist
 8 in this endeavor to whatever degree is necessary.
 9 And I think we're providing you a copy of
 10 that, and there are a couple of charts that we'll
 11 provide as well.
 12 CHAIRPERSON KADISH: Okay. Thanks, Jim.
 13 Questions, please?
 14 MR. KOZLOWSKI: Jim, a number of people
 15 have suggested starting out with like CAIG estimates
 16 as perhaps being more realistic or the most probable
 17 cost going out. Suppose we do that, and we get over
 18 the dilemma of unreasonable or optimistic pricing on
 19 the part of contractors and government program
 20 managers.
 21 Now, once the industry or the government
 22 knows what the upfront price is, what's to inhibit the
 23 people involved from exceeding that estimate? It has
 24 been my experience over 40 years in the industry that
 25 once a figure is out on the table there's always

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1 somebody around who will exceed it.
 2 MR. ALBAUGH: Well, I think there's a
 3 supposition that contractors aren't trying to meet the
 4 goals that they've set. And in my -- you know, my
 5 view has always been that we do not turn in cost
 6 estimates knowing that we're not going to be able to
 7 meet those.
 8 I think often times we get, you know, very
 9 optimistic in our ability to meet those numbers, and
 10 I think based on the kind of proposal that we're asked
 11 to turn in, we oftentimes do not include risk money to
 12 address all the possible known and unknown risks that
 13 we might get to. But, you know, I would have to argue
 14 with you that we have a contractor community that sets
 15 a bougie and then knowingly overruns those numbers.
 16 We get paid for performance, and if you
 17 look at the award fees that we get, if you look at the
 18 fixed price contracts that we have, we are
 19 incentivized to perform. And I think that the
 20 customer can send a very powerful message to us by --
 21 by not giving us compensation for a poor job and only
 22 compensating us for a job well done.
 23 MR. KOZLOWSKI: I certainly wasn't
 24 implying any deliberate attempt. I'm just talking
 25 about people being people. Once there is a figure

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1 there, somebody wants to start nibbling away and say,
 2 "Hey, I can get a little bit more."
 3 On the government's side, requirements
 4 creep would be an issue, particularly if they know
 5 that maybe there is a difference going in between the
 6 optimistic estimates, which we used to use but now we
 7 use the CAIG estimates. He feels he's got a little
 8 bargaining room. He's going to go in and maybe ask
 9 for some. I mean, people are people.
 10 It's one thing to use the more realistic,
 11 more probable cost. But how do we make sure that
 12 that's held fixed and people don't nibble away at it?
 13 I certainly wasn't implying anybody is going to go out
 14 and deliberately exceed it.
 15 CHAIRPERSON KADISH: Anybody else?
 16 DR. BRANDT: I actually have two
 17 questions. One, we've been talking about lead system
 18 integrators with a variety of contractors from the
 19 perspective of the companies and some of the issues
 20 that it raises within the industry, perhaps on the
 21 second and third tier contractors, and perhaps
 22 conflicts that arise. And also, perhaps something
 23 that it says about the capabilities of the DoD
 24 workforce that we are substituting large system
 25 integrators.

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1 You're in the middle of one. What would
 2 you say about that? And how is it -- now you're in
 3 the middle.
 4 MR. ALBAUGH: We're in the middle of a
 5 couple of them. You know, first of all, I think, you
 6 know, maybe lead system integrator was a poorly
 7 chosen, you know, name for what we're trying to do.
 8 If you look at a prime contractor, they -- they
 9 integrate, you know, subsystems to provide a system,
 10 and what we're doing on a number of the programs we're
 11 having is just doing the integration, you know, one
 12 level higher.
 13 And to a large degree, it really is the
 14 same task, doing trades to come up with the best
 15 solution for the customer.
 16 I think another misconception about the
 17 lead system integrator role is that we are doing the
 18 job of the government customer. This is not a TSPR
 19 contract that we have. This is a lead system
 20 integrator contract that we have, and it's one where
 21 all the decisions that are made are made jointly, you
 22 know, with our customer, not made arbitrarily, you
 23 know, by the Boeing Company.
 24 To the issue about second- and third-level
 25 contractors, I think that sometimes people again mix

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1 up LSI with vertical integration. And I think the
 2 responsibility that a company has as an LSI is to
 3 bring the best of industry, not to bring the best of
 4 their company. And, certainly, you need to have fair
 5 competition in order to let everybody that has a
 6 capability bid for the different elements of a
 7 program.
 8 And one of the things that we've tried to
 9 do is make sure that good firewalls are in place, and
 10 there is fair competition, and that we bring not just
 11 the best of Boeing, but the best of industry, to the
 12 program. And, you know, rather than stand up here and
 13 give you a sales pitch on how good a job we've done on
 14 that, you know, we have looked at literally thousands
 15 of proposals and done, you know, hundreds of awards,
 16 and we have not got a protest yet. We've got one
 17 letter of concern that was withdrawn the next day.
 18 But I think it's incumbent on any prime
 19 contractor, or at least system integrator, to bring
 20 the best solution to their customer, and that means
 21 not bringing the best of their company. We've worked
 22 very hard not to do that.
 23 DR. BRANDT: I've got one more question on
 24 a slightly different subject. You have a healthy and
 25 vigorous commercial side of your business, which many

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1 of our contractors don't have. You develop complex
 2 products on that commercial side. What could we learn
 3 from how you handle risk, cost, schedule, performance,
 4 technology, on the commercial side? Or is it simply
 5 so inapplicable in terms of the way that we do
 6 business that it's very difficult to translate some of
 7 the things that you might do on the commercial side?
 8 MR. ALBAUGH: I will tell you it works
 9 both ways. It really does. You know, we have been
 10 able to improve the productivity of many of our
 11 military airplane lines by going to the moving line
 12 process that they used so effectively up in Retton and
 13 up in Everett. And we've been able to reduce our
 14 costs dramatically as a result of that.
 15 By the same token, you know, we had
 16 problems in the late '90s with our commercial airplane
 17 production of not knowing what airplanes cost. And by
 18 putting in earned value in some of the disciplines
 19 from the military side, we've been able to get a much
 20 better handle on the cost of airplanes.
 21 The satellite side as well -- the
 22 technology going back and forth between defense
 23 programs and commercial satellite programs. And then,
 24 of course, you know, the whole issue of commercial
 25 derivative airplanes which affords the government to

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1 get an airplane without having to invest in the
 2 development cost of, for instance, a, you know, 767 or
 3 a 737 in the case of the E-10 or the P-8.
 4 DR. BRANDT: But do you assess risk
 5 differently? One of the things that we've heard is
 6 that sometimes both industry and government are overly
 7 optimistic or don't assess risk appropriately at the
 8 start of programs? Is that -- is there something
 9 differently that you do on commercial programs in
 10 terms of that risk assessment that we do or don't do
 11 or perhaps, again, not applicable or --
 12 MR. ALBAUGH: Well, I've never worked on
 13 the commercial side of the Boeing Company. And since
 14 joining the Boeing Company seven or eight years ago,
 15 we have launched one new commercial development
 16 program, which is the 787.
 17 We have tried to put in place, you know,
 18 all of the program management best practices learned
 19 from prior commercial development efforts as well as
 20 defense development efforts to make sure that we can
 21 bring that thing in on cost and on schedule.
 22 You know, we've spent a lot of time, you
 23 know, looking at programs that succeed and programs
 24 that have issues. And we have tried to instantiate a
 25 set of program management best practices into

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1 everything that we do, and these best practices we
 2 apply both to commercial as well as to military
 3 programs.
 4 And while they help, I think a lot of it
 5 comes down to the leadership of the program and having
 6 good, trained, experienced program managers in those
 7 roles. And, you know, as General Kadish knows, and
 8 we've talked about this before, you know, I love
 9 program managers that are always telling me the cup is
 10 half empty, because then I know they're really
 11 thinking about risk and they're thinking about what
 12 can go wrong versus those program managers that like
 13 to tell me things are always going well.
 14 CHAIRPERSON KADISH: Go ahead.
 15 MR. HAWLEY: Jim, you've emphasized the
 16 requirements, issue, as many others have, and you've
 17 talked about a risk-based system. One of the things
 18 that has been put in place recently, not necessarily
 19 to better evaluate the risk associated with our
 20 requirements but to ensure that the joint perspective
 21 is honored, is the JCIDS process.
 22 I'd be interested in your view of where we
 23 are with that today, and whether or not industry has
 24 an avenue to influence the JCIDS process, and whether
 25 or not you see the JCIDS process including some

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1 measures to make sure that we do adequately consider
 2 the risk associated with some of the requirements that
 3 evolve out of that.
 4 MR. ALBAUGH: Well, I think it's certainly
 5 a step in the right direction. And I, like I'm sure
 6 everybody who talked to you today, you know, applauds
 7 what you've tried to do with that. But maybe just a
 8 couple of points I could make.
 9 You know, jointness and interoperability
 10 certainly is something that our customer wants very
 11 badly. But we also find that when we propose a
 12 program or a solution that depends on another program,
 13 our number, our proposal gets risked up, which in
 14 essence the program managers want to be able to
 15 control their total program, and I can understand
 16 that.
 17 But at the same time, it drives us towards
 18 building programs in silos as opposed to building
 19 programs that have the interoperability capability
 20 that I think the JCIDS process is really driving
 21 towards.
 22 You know, one of the things that I talked
 23 about in the intro was the fact that we need to have,
 24 you know, common standards, and there's a consortium
 25 that I know you're familiar with -- 70 or 80 of the

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1 contractors are involved in it -- but provide a common
 2 information and communications architecture that goes
 3 across all programs, and then let the contractors
 4 compete at the operational level, at the functional
 5 level, as opposed to at the COM and information level.
 6 I think that would go a long way in
 7 driving this interoperability that you want. Compete
 8 at the applications layer -- level.
 9 MR. HAWLEY: Could you talk a little bit
 10 more about what you mean by a risk-based process?
 11 MR. ALBAUGH: Yes. Early on in a program,
 12 as you take the requirements from the customer, as you
 13 flow those requirements down through your systems
 14 engineering process, you know, assess risk for every
 15 element as you go down, and then build it back up to
 16 come up with what you think the risk for the program
 17 is.
 18 And I think there are known and there are
 19 unknown risks that you need to quantify as you do your
 20 systems engineering task. And what we try to do is
 21 put together a risk matrix to try to put mitigation
 22 plans in for all the known risks, and then to have,
 23 you know, some level of contingency in place for the
 24 unknown risk that we know is out there in a
 25 development program.

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1 And what happens in our zeal to come up
 2 with a low number that can win is I think sometimes we
 3 shortchange the unknown risk in putting the right
 4 level of unknown risk into the proposal.
 5 CHAIRPERSON KADISH: Jim, the industrial
 6 base over the last 15, 20 years has become much more
 7 vertically integrated, partly at the behest of the
 8 government, obviously. We had 20 primes in 1985, many
 9 thousands of airplanes at work. Now we're down to,
 10 what, three or four, maybe five, and many less
 11 activities.
 12 And this vertical integration activity,
 13 among the big primes, could potentially have problems
 14 with competition and those types of things. Is there
 15 any -- and you mention this in your LSI discussion,
 16 the idea that we could actually separate out through
 17 the OCI issues and firewalls the right kinds of
 18 decisions.
 19 But where is it going to end up in the
 20 process? More vertical integration could get us in a
 21 position where we really don't have a competitive
 22 situation in the areas, especially when we get down to
 23 the subsystems. Can you give us any insight --
 24 MR. ALBAUGH: Yes.
 25 CHAIRPERSON KADISH: -- into that?

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1 MR. ALBAUGH: Well, let me give you just
 2 a Boeing perspective, and then I'll try to give you an
 3 industry perspective. You know, our view is one of
 4 having a strategy where we are not vertically
 5 integrated. And our view has been that by not being
 6 vertically integrated you can bring the best of
 7 industry to any proposal that you turn in.
 8 If you're vertically integrated, one,
 9 there's a large cost of keeping your technology fresh
 10 in all of the different areas that you may be in.
 11 And, two, is it possible to be, you know, world-class
 12 in all of those different areas that you're vertically
 13 integrated in? You know, our view is if you bring the
 14 best of your company to a proposal, you're going to
 15 have a sub-optimal solution. If you bring the best of
 16 industry, you will have an optimal solution.
 17 Now, you know, backing up and taking a
 18 look at industry as a whole, I think one of the things
 19 that drives people out of this marketplace, or drives
 20 many of the acquisitions that we have, is the feast or
 21 famine cycle that we have of government funding. And
 22 every time we have a famine we drive people out of the
 23 business.
 24 Some people would say we need more work to
 25 do. I think more important than that is we need a

<p style="text-align: right;">Page 182</p> <p>1 stable environment in which to operate in. 2 And I really believe in capitalism, if you 3 will. I think if there's a market, and there's an 4 opportunity for good returns, you will have 5 competition and you will have people, you know, 6 entering, you know, these disciplines, these 7 technologies, these capability areas. But I can tell 8 you that our strategy is one that is contrasted to 9 some of the other primes. 10 CHAIRPERSON KADISH: There is a thought 11 that says, or a point of view that says, if you're not 12 vertically integrated to a large extent you're not 13 going to be able to maintain the systems of systems 14 engineering expertise, because you're not touching 15 hardware. Do you have any -- 16 MR. ALBAUGH: Well, yes, that's -- I get 17 that question from the engineers all the time, as you 18 might guess. And, you know, I think we learned a 19 lesson. When you outsource something, it doesn't mean 20 you get rid of your engineers who provided support to 21 that discipline when you had it inside the company. 22 Just because we're not machining doesn't 23 mean that the support people who supported machining 24 go away. Instead of working in our internal factors, 25 if you will, they're working in our external factors.</p>	<p style="text-align: right;">Page 184</p> <p>1 bring on highly qualified, highly skilled engineering 2 staff, when you have to suddenly field a workforce? 3 MR. ALBAUGH: Yes. Well, that's a huge 4 issue, and it's a bigger issue than Boeing or 5 aerospace. I think it's really all about the 6 intellectual disarmament of the United States of 7 America. I mean, look at the number of engineers that 8 we're graduating in this country -- 50,000, 60,000 a 9 year. 10 If you compare that to China, 6- or 11 700,000, and, in India, you know, 300,000, and the 12 technological edge that we think will maintain our 13 standard of living for years to come I think is very 14 perishable if we don't drive more kids, you know, 15 into, you know, the kinds of industries that we've 16 been in for years. 17 You know, looking at Boeing, you know, our 18 average age of an engineer is about 50. The average 19 aerospace worker is 53, 54. We've got a very bimodal 20 distribution, new people coming in, older people. How 21 do you transfer that knowledge? We're working that 22 one very hard. 23 I look at the young kids that we bring in, 24 and we've been pretty successful to date -- in fact, 25 you know, very successful bringing people in, and I</p>
<p style="text-align: right;">Page 183</p> <p>1 And one of the lessons learned that we found out early 2 was that you have to make sure that you're providing 3 the same level of oversight, of engineering interface, 4 of industrial engineering, of manufacturing 5 engineering, regardless as to where, you know, that 6 factory may be or who that provider might be. But we 7 do think about that one a lot. 8 CHAIRPERSON KADISH: You think you can 9 manage that. 10 MR. ALBAUGH: So far. And I think the 11 other thing that you have to do is always assess, you 12 know, what are the capabilities that you need to be 13 successful? And where you have capability gaps, you 14 know, there are really, you know, three avenues. One, 15 form an alliance with somebody, develop the capability 16 internally, or do an acquisition. And our strategy 17 has been alliances and taking advantage of the 18 industrial base that exists. 19 CHAIRPERSON KADISH: Anybody else? 20 MR. PATTERSON: I have just a quick one. 21 In the reviews that we've done, and the people who 22 have come to talk to us, a fairly persistent theme of 23 an eroding engineering and science and technology base 24 has been a fairly consistent comment. How difficult 25 is it for -- to be very specific, for you, Boeing, to</p>	<p style="text-align: right;">Page 185</p> <p>1 think it's because of the broad range of projects that 2 the young graduates can work on. But what we find is 3 they leave. 4 They leave after four or five years, and 5 I think that our industry is one that rewards people 6 based on seniority as opposed to one that rewards 7 people based on ability and proven performance. And 8 I think one of the things that we have to do is start 9 bringing our young people along and giving them 10 challenging work, challenging assignments, and rewards 11 at an early age, because they're seeing the kids that 12 they went to school with, you know, getting rewarded 13 and getting promotions in other industries that 14 compete for our talent. 15 But, you know, if you step back and you 16 think about, you know, why people want to go into 17 different fields of work, one of the big reasons is 18 because it's important. And we can really provide 19 those young students with very important, meaningful 20 work to do, and in a vast array of different things to 21 work on during a career. 22 But I think we've got to bring them along 23 a lot faster, and we have to -- you know, we need to 24 have another Apollo program, or another space race, to 25 get the young kids interested in the kind of business</p>

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1 we're in today.
 2 MR. PATTERSON: One of the things that
 3 we've noticed is that the -- all of the folks who got
 4 their degrees under the National Defense Education Act
 5 of 1958 are suddenly going away very quickly. And
 6 there's an initiative in the conference now for a --
 7 for NDEA for 2006, which we probably ought to support
 8 that.
 9 MR. ALBAUGH: Yes, absolutely.
 10 CHAIRPERSON KADISH: Anybody else?
 11 MR. KOZLOWSKI: Yes, I've got one. The
 12 same one I've been giving out the last couple -- you
 13 hear a lot of people complain in this business about
 14 not making decent profit margins. And one side of
 15 that I'll put in myself, and just say I think part of
 16 it is because industry doesn't earn what they bid.
 17 Be that as it may, my question to you --
 18 and you may want to take this home and have your
 19 people research it a little bit -- is there anything
 20 that your corporate structure can think of, either by
 21 way of tradition, regulation, CAS standards, FARs,
 22 DFARs, whatever -- that impedes your ability to make
 23 wise cost reduction decisions?
 24 One guy talked to us about he was
 25 inhibited from closing the facility, because he

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1 wouldn't get any of the benefit of it.
 2 MR. ALBAUGH: Yes.
 3 MR. KOZLOWSKI: The other go-round is, you
 4 know, is it the weighted guidelines, or is it some
 5 other thing that -- that's stifling the ability to
 6 make a reasonable return? Anything you can suggest to
 7 the committee that we might pursue is -
 8 MR. ALBAUGH: Well, I think that that
 9 answer that you got about sometimes not being
 10 incentivized to work to reduce capacity, I think
 11 that's a very true one. And I'll take that one back
 12 and talk to some of our contracts people about it, but
 13 there are two things that do come to mind relative to
 14 FAR and requirements that I think we really need to
 15 think about.
 16 And, you know, the requirement to have to
 17 cover all the termination liabilities by program, I
 18 think we often, you know, take the money out of areas
 19 that we should be funding on programs. And as I
 20 mentioned in my remarks, I think we take, you know,
 21 much of the termination liability funding out of risk
 22 reduction efforts that would certainly allow us to
 23 bring those programs in. And if we could cover
 24 termination liability at a level higher, more
 25 globally, I think that would be good for industry.

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1 Another issue that we have seen,
 2 especially in the Department of Homeland Security, but
 3 we're starting to see more and more in the Department
 4 of Defense, is RFPs that come out that don't have
 5 Safety Act coverage. And the indemnification issue
 6 will become a greater and greater one I think as time
 7 goes by.
 8 You know, companies are going to be very
 9 hesitant to bet their balance sheet, and it's going to
 10 be hard sell to their board of directors. And the
 11 identification coverage that we've had extended to us
 12 in Department of Defense contracts I think is one
 13 that, one, the Department of Homeland Security needs
 14 to look at, and, two, we need to review some of these
 15 proposals that are coming out without it. But we'll
 16 get back to you with some more information on that.
 17 CHAIRPERSON KADISH: You know, as I
 18 recall, the termination liability requirement to fund
 19 it is a financial regulation, not a statutory
 20 requirement. But I may be wrong on that. That's
 21 something you ought to look into.
 22 MR. ALBAUGH: Okay.
 23 CHAIRPERSON KADISH: Anybody else? You're
 24 getting off easy, Jim.
 25 (Laughter.)

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1 MR. ALBAUGH: You guys must be tired. The
 2 other guys wore you out. I'll send them a thank-you
 3 note.
 4 CHAIRPERSON KADISH: As we went down our
 5 checklist of things, we've actually covered
 6 everything.
 7 MR. ALBAUGH: Okay.
 8 CHAIRPERSON KADISH: So there's nothing
 9 left for us at this particular session. We might ask
 10 you back.
 11 MR. ALBAUGH: All right. I'd be happy to
 12 come back, and I know you're talking to some of our
 13 program managers, and they're looking forward to it.
 14 And anything we can do to help.
 15 CHAIRPERSON KADISH: Okay. Thank you very
 16 much.
 17 MR. ALBAUGH: Thanks.
 18 (Whereupon, at 6:59 p.m., the proceedings
 19 in the foregoing matter went off the record.)
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