

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

DEFENSE ACQUISITION PERFORMANCE ASSESSMENT (DAPA)

PROJECT MEETING

Thursday, August 10, 2005

Anteon Corporation

1560 Wilson Blvd, Suite 404

Arlington, VA 22209

Page 2

1 P-R-O-C-E-E-D-I-N-G-S
 2 (9:00 a.m.)
 3 MR. PATTERSON: I hope this will be an informative
 4 session for you. It is an open session. And to set some of
 5 the ground rules before we get into the appropriate
 6 introductions, there will be a question and answer time on
 7 the agenda. You also should have cards that have been
 8 provided to you to write down a question if you're too shy
 9 to stand up and ask it. But there will be a time for you to
 10 stand up and be recognized and ask your question. The panel
 11 will make every attempt to answer it in a timely manner. If
 12 not, we will provide you a response later.
 13 What I would like to do at this time is to
 14 introduce to you some of our project officers, and our
 15 project officers are an important aspect of this DAPA
 16 project team, because in addition to capturing some of the
 17 observations that you will hear, they also capture the key
 18 points for us to use as we put together the report. They're
 19 also assisting in conducting of the survey, which is a very
 20 important part of this DAPA project.
 21 But in addition to that, they represent a very
 22 fine conduit from this project back to the individual
 23 services. And so what I would like to do is to introduce
 24 those folks to you. And first is the Army. We have Ms.
 25 Nancy Moulton, and Nancy is a deputy for life cycle

Page 4

1 of the Air Force at the Acquisition Center of Excellence.
 2 I'm Dave Patterson, and I'm indeed director of
 3 this project. And I would like to introduce you, or those
 4 of you who were not with us at the last open session, to our
 5 panel. Our chairman, Ron Kadish, is a partner and vice
 6 president of aerospace market group at Booz Allen. And in
 7 front of me I have Mr. Frank Cappuccio. He is vice
 8 president and general manager of advanced development
 9 programs, Lockheed Martin Aerodynamics. To his left is
 10 General Richard Hawley, and he is an independent defense
 11 industry consultant. He is also the former commander of Air
 12 Combat Command. To his left is Mr. Don Kozlowski, an
 13 aerospace consultant, and also the former president of
 14 VisionAire Corporation, and the former program manager of
 15 the C-17 program.
 16 With that, I want to turn this meeting over to the
 17 chairman, Ron Kadish, and we will go through the agenda.
 18 And hopefully we will be on time and on cost, and the
 19 performance will be pretty decent as well. So thank you
 20 again for being here.
 21 CHAIRMAN KADISH: Good morning, everyone. I would
 22 like to just review the agenda today to make it clear what
 23 our objectives are for a very long day of information
 24 gathering and listening.
 25 The first thing we will do is update our interview

Page 3

1 integration, assistance to the Assistant Secretary of the
 2 Army for Acquisition, Logistics, and Technology.
 3 We also have Mr. Steven Hayes, and Steve is an
 4 acquisition fellow in the capacity of special assistant and
 5 assistant executive officer to Dean Hopps, who is the
 6 principal deputy to Mr. Bolton.
 7 We have with us Commander Dan Seigenthaler, and
 8 Commander Seigenthaler is the deputy acquisition manager for
 9 (inaudible), which is an LHD-8, and it's the first of --
 10 it's a gas turbine all-electric class, and he's assigned to
 11 us to help us out.
 12 From the Navy, Ms. Rose Bartlett, who could not be
 13 here, is the staff officer to John Young, who is the Deputy
 14 Assistant Secretary of the Navy for Acquisition.
 15 Our Air Force contingent is represented by
 16 Lieutenant Colonel Annette Foster, and Annette is serving
 17 full time with the DAPA project. She provides invaluable
 18 service. Major Julie Norris is the Deputy Chief of Space
 19 Plans and Policy, and she comes up to us from space.
 20 (Laughter.)
 21 MR. PATTERSON: Just got back.
 22 (Laughter.)
 23 MR. PATTERSON: Anything you can walk away from
 24 right? And Michael Brown is assigned -- he is not with us
 25 this morning -- but he is assigned as an acquisition manager

Page 5

1 process. And I think for those of you who are familiar with
 2 our process, interviewing key individuals in the acquisition
 3 arena is a key part of our data process gathering. I would
 4 like to give a short briefing after that in open session
 5 about the idea that acquisition is more encompassing than
 6 what traditional reform activities have undertaken, and I'll
 7 make a distinction between what we call big A acquisition
 8 and little A acquisition. Don't put a value judgment on
 9 that yet. We will go through it in some detail, because it
 10 sets the tone for the major part of our study.
 11 We will take a break if we're on time. And from
 12 then we will start getting a viewpoint from industry in this
 13 day of open hearings, and when we plan to have next week,
 14 working out the details now, are structured to get the
 15 industry associations and the industry leaders themselves
 16 involved in our study process.
 17 So, Mr. Larry Farrell, president of NDIA, will be
 18 coming in at 10:30 this morning to give us his perspective
 19 from an industry association, and then we will break for
 20 lunch. We will move into the afternoon at 1:00 with Mr.
 21 Frank Lanza, chairman and CEO of L-3 Communications, to give
 22 us his perspective. And I'm told that ought to be a very
 23 interesting talk as well.
 24 We will do some question and answers followed at
 25 about a quarter to 3:00 with Mr. Mark Ronald from BAE

Page 6

1 Systems. Question and answers after that, and we'll wrap it
 2 up somewhere around 4:00, and then we'll go into closed
 3 session to deliberate some of the issues from an
 4 administrative perspective that we have. And next week
 5 we'll follow on with more of the same.
 6 And so we look forward to a pretty ambitious
 7 agenda, but also an important one from our perspective to
 8 get the people who are in the industry serving the
 9 acquisition system of the DOD as the product providers, and
 10 their perspective on what we could do better in these areas.
 11 So that's the agenda. Are there any questions
 12 from the panel about it, or from the staff, or anybody else
 13 in the room?
 14 (No response.)
 15 CHAIRMAN KADISH: Okay. With that, I would like to
 16 move into an update of the interview process by Mr. Mike
 17 Mulligan.
 18 MR. MULLIGAN: Thank you, General Kadish. My name
 19 is Mike Mulligan. I am program manager of an organization
 20 called the A-Team, which provides contractor technical
 21 analytical support to Air Force acquisition. We have been
 22 asked by the government to put together the interview
 23 process. And what I'm going to give you this morning is
 24 about a 10-minute briefing on what the process is, where we
 25 are with it, and what we expect to get out of it at the end.

Page 7

1 This briefing is in three sections: the interview,
 2 candidates, and data collection, starting right off with the
 3 interview. If I can see the slides, the interview itself is
 4 fairly daunting for the interviewees. It's grasping for 90
 5 minutes of everyone's time. It's split up here as you see,
 6 a team of two people, a lead interviewer, and what we call a
 7 scribe or note taker, actually conducts the interview
 8 working from a 74-question questionnaire, which the
 9 interviewees have been provided in advance 67 questions,
 10 which are multiple questions, asking the person that is
 11 being interviewed to give an opinion on a subject in the
 12 defense acquisition process, either strongly supporting or
 13 strongly disagreeing with the positions.
 14 And then seven of the questions are open-ended, or
 15 what we call essay questions, asking how things could be
 16 improved in a particular area or from a particular
 17 perspective. This is what the interview is really going to
 18 be, the exchange is really going to amount to, so responding
 19 to the essay questions.
 20 When the interview is finished, we have what we
 21 call a hot wash, where the interviewer and the note taker
 22 compare notes to make sure that what they've got down and
 23 taken down has actually transpired. Ninety-two interviews
 24 have been set up to date -- actually 93 confirmed scheduled
 25 with industry government labor representatives, trade

Page 8

1 associations representing the demographics that are shown on
 2 the next bullet, 9 major defense industry firms, 43 defense
 3 programs, 15 unions, and 7 trade associations, professional
 4 associations that are involved in the acquisition of
 5 materials and services.
 6 All the services, all joint programs, contractors
 7 and subcontractors, are the audience of this effort.
 8 Thirty-three -- I'll just update for this slide -- 33 have
 9 been actually conducted as of close of business last night.
 10 The data collection will trend -- and I've got a
 11 bar chart that will summarize the figures I just showed you,
 12 I believe at the end of the briefing -- data collection is
 13 going to try to identify trends in the subjects that are
 14 covered during the course of the interview, that is, if we
 15 have 93 different opinions on the adequacy of the
 16 requirements management process. Where do the opinions of
 17 that subject trend, either by industry, by government
 18 representatives, among the services, and across the
 19 demographics that were trying to track? And the themes from
 20 the open-ended responses are going to be a little more
 21 difficult, because that's where opinions are coming in that
 22 we haven't structured, and basically what the opinion of the
 23 interviewee is as to areas.
 24 The demographics are covered. They include
 25 program managers significantly. The 43 some odd programs

Page 9

1 that we've specified so far, and all the answers are going
 2 to be bundled in baskets of 12 study areas that we've
 3 covered in our first open sessions, and are cross-matched
 4 against study areas or what we call focused domains.
 5 There is a summary of the briefings that we have
 6 scheduled to date by service. Those have been completed to
 7 date and the sum total, again, as we based on the
 8 demographic of the target population, they include the trade
 9 unions and associations in the second to the last column.
 10 The time line for this effort is as shown. Data
 11 is going to be collected after each interview, as I
 12 indicated. It's going to be an iterative process where --
 13 while we're getting in the results in right now so we can
 14 look at where the trends are going as the data is built.
 15 We're going to have five days at the end of the data
 16 collection exercise to close out and report what we've done,
 17 and that close-out and the responsiveness of the candidates
 18 to the questions and how fast we actually get the data in.
 19 In summary, this is a fairly comprehensive
 20 exercise of a fairly detailed and complex functional area,
 21 defense acquisition. We're interviewing a very diverse
 22 population, as represented by the 100 or so individuals we
 23 have scheduled so far. As you can see from the time line,
 24 it's a fairly aggressive interview schedule. Also, these
 25 interviews are being conducted face-to-face in person here

Page 10

1 in the Washington area and across the country. And, of
 2 course, aggregating the responses that we get from this kind
 3 of a population and this sort of a complex environment is
 4 going to be a challenging aggregation task, putting the
 5 answers into the information or study areas that were
 6 covered at the very beginning.

7 Could I take questions or comments from the panel?
 8 CHAIRMAN KADISH: Any questions? It's a pretty
 9 comprehensive approach. And, again, this fits in with the
 10 research we've been doing, as well as the briefings and
 11 information gathering we're doing in forums like this. And
 12 it puts quite a bit of rigor into the overall data gathering
 13 on the field, if you will. And one of the unique parts of
 14 this is that we go to industry and trade associations as
 15 well as the people in the government doing acquisition.

16 Any questions from anybody else in the room?
 17 (No response.)

18 CHAIRMAN KADISH: Okay. Thank you. What I would
 19 like to do now is step into a discussion of what I alluded
 20 to earlier, and that is a discussion of big A, little A.
 21 And it might sound like a trivial moniker to put on the
 22 acquisition system, but it's something important, I think,
 23 for us to understand in the way ahead that we're using, and
 24 the structure and thought process and philosophy we're using
 25 in this particular study. It's embedded in Secretary Gordon

Page 11

1 England's memo chartering us, but it's important for us to
 2 put it in the context for ourselves all the time that we
 3 need.

4 Now, what I have here in this slide is the
 5 fundamental policy description of the three DOD management
 6 systems. And you notice that we depict them as overlapping.
 7 And one of the key elements of this is that all of those
 8 management systems, separate as they may be, intersecting at
 9 some points, and from a practical standpoint, all have to
 10 work together to pull together a set of decisions
 11 surrounding the acquisition of anything in the Department of
 12 Defense.

13 And you notice that defense acquisition is just
 14 one of those circles, one of those processes. You've got
 15 the planning, programming, budgeting, and execution system,
 16 the 5-year defense program, if you will, intersecting as
 17 well as the joint requirements process, and the requirements
 18 process in general used by the services.

19 Now, these are very important points of
 20 intersection in the overall effort, and we have to
 21 understand what the effect of each and every one of those
 22 management processes has on the acquisition system as we
 23 know it today. Could I have the next chart, please?
 24 Now, the process and distinction I want to make
 25 between big A and little A here is one where we have been

Page 12

1 concentrating reform. If I might -- you start with
 2 capability need, or the requirements process, if you will.
 3 You add that resources Venn diagram, you've got the
 4 acquisition system, and the life cycle part of this is
 5 you've got to sustain and retire. The interesting part of
 6 that, that is, that this is traditionally what has been
 7 defined as the acquisition system.

8 The contracting, the developing, the acquiring,
 9 once you have the resources and capability defined, then you
 10 can go out and require it -- acquire it as a separate
 11 entity. And this here especially is what we've been
 12 reforming for year. And in fact, Goldwater-Nichols spent a
 13 lot of time here, as well as what we're starting to see in
 14 some of our literature search and other data-gathering
 15 activities. So this is the little A acquisition in terms of
 16 a piece of the overall big A acquisition. That includes all
 17 of what the Department of Defense does in this process.

18 Next chart, please.

19 So in order for the little A to be successful, you
 20 would probably make these kind of statements. You've got to
 21 have a stable requirement. That is what you're buying. You
 22 have to have the funding available and stable. And, in
 23 fact, my experience as a former program manager is that this
 24 is at the top of every briefing you will get from a program
 25 manager. And we'll talk about that, I'm sure, in the coming

Page 13

1 weeks. The technology is mature enough and you can keep it
 2 under control. And yet the little A acquisition system is
 3 not responsible for those things. Okay, next chart.

4 So, one of the things you could say is that little
 5 A acquisition that we've been reforming quite well over the
 6 last 30 years is still a captive to the big A, which has
 7 changed over the years. So we've got to look at this from a
 8 total process standpoint, and that is what we are doing, and
 9 that is what we believe Secretary England's charter to us
 10 has been.

11 Now, that's a short and sweet explanation of the
 12 difference between what we think our charter is in the study
 13 and what others have done in this area. And we intend to
 14 follow through on this. So when you hear us fall into the
 15 jargon big A, little A, as we discuss the various issues
 16 associated with the study effort here, you can understand
 17 what we're talking about when we use that shorthand. And
 18 that's the reason why we wanted to talk about it today.

19 Is there anything the panel members might want to
 20 add or correct? If I didn't explain it exactly the way
 21 we've been discussing it? Dick?

22 MR. HAWLEY: Well, on your second chart, we start
 23 out with capability needs. There's a whole front end of
 24 that, which is strategy development, defining the
 25 environments in which we think our force is going to

Page 14

1 operate, what kind of threats they're going to operate
 2 against, and so on and so forth. That kind of precedes that
 3 step, is the only addition I would like to make.
 4 CHAIRMAN KADISH: And I would agree. In fact, as
 5 we discuss this, you can add the strategy up front,
 6 development that the capability response. And at the other
 7 end, we can add the Congress and the other processes outside
 8 the Department that also impact it. So there are some --
 9 you can make this so big that it encompasses everything the
 10 country does. But I think that is an important plank from a
 11 strategy standpoint, because that's where capabilities are
 12 derived.
 13 Any other comments from the panel?
 14 MR. PATTERSON: Well, you know, we talked about
 15 this early on when we first say the Venn diagram at the
 16 beginning. And my notion is that when you see that, you get
 17 the impression that each of the circles is of equal
 18 importance and is equally represented with mass in this
 19 whole system. And I think that it also tends to make people
 20 think that requirements can be discussed in isolation to the
 21 rest of the system, when in fact it appears to me that the
 22 way it should be is that the defense acquisition system
 23 should consume and have within it the requirements, because
 24 otherwise you get this notion again that it's somehow
 25 separate and can operate on its own.

Page 15

1 CHAIRMAN KADISH: Are there any questions from the
 2 floor at this time about these issues?
 3 (No response.)
 4 CHAIRMAN KADISH: Okay. I would like the record to
 5 reflect we are now one hour ahead of schedule, so we will
 6 take a one-hour break. We have Mr. Farrell coming in at
 7 10:30. This is basically what we intended to discuss this
 8 morning. We thought we'd probably have a little bit more
 9 dialogue on these issues, but I think they're pretty
 10 straightforward in the end.
 11 MR. PATTERSON: If we were going to add something,
 12 I would like to just -- to go back to what we had for the
 13 interview process, and some of the things that make it
 14 unique that you don't normally find, at least in my exposure
 15 to this. I would like to make a special point of the fact
 16 that in all of these studies that I've bumped into where
 17 they use surveys as a major portion of their data gathering,
 18 few, if any, have talked to organized labor. They seem to
 19 be just subsumed under management and that's the end of it.
 20 But in my experience with this particular survey,
 21 what I've found is that they have a unique and important
 22 point of view. And when you talk about program stability,
 23 they are extremely interested in program stability, because
 24 it's much more difficult if you have a program that has
 25 instability in budget or requirements where the program in

Page 16

1 general for them to maintain their workforce. And, of
 2 course, if they can't maintain a stable workforce, then
 3 their collective bargaining position tends to be somewhat
 4 cloudy.
 5 CHAIRMAN KADISH: Any other panel members want to
 6 add anything before we break? I think we have a question
 7 over there.
 8 QUESTION: Two questions. First of all, the roles
 9 of services. The Department is spending not more than 55
 10 percent of its total acquisition on services. They're
 11 rarely categorized as major systems -- as an essential part
 12 of panel's review in little A or big A, and operations and
 13 maintenance, even for major systems, you put it outside the
 14 big A, but that is a continuous acquisition process for
 15 major systems life cycle maintenance, logistics support.
 16 How is that treated in the big A, little A discussion?
 17 CHAIRMAN KADISH: I may have given you the wrong
 18 impression. It has not been included in the little A for a
 19 long time, either one of those efforts. When you put it in
 20 the big A category, it is dead center when you look at just
 21 the money aspects of this. I think I'll just make an
 22 assertion -- I don't have the data, we don't have the data
 23 aggregated right now -- but between the services and the
 24 operations and maintenance and sustainment efforts that we
 25 do on a day-to-day basis in the Department of Defense, it

Page 17

1 probably is two times what we spend on major systems
 2 acquisition. So that is part of the big A in the way we
 3 define it, and it has not traditionally been a focus of
 4 reform activities at this level. Is that fair to say, from
 5 the rest of the panel? Don?
 6 MR. KOZLOWSKI: Just to elaborate and give you
 7 little caveat, we haven't quite put all this in the uniform
 8 perspective because the panel members are still looking
 9 through it. Here are some of the things that turn me on or
 10 pique my interest, however you want to couch it. There has
 11 been a great trend over the last several decades, I guess,
 12 for service contracts ballooning across the entire federal
 13 government. And I can take that one step further. Through
 14 the phenomenon of outsourcing, I guess you could say,
 15 everybody is sort of going out for service contracts these
 16 days. Specifically in the context of our charge, I'm very
 17 interested to see where the service moneys are going. They
 18 are certainly a big part of the economic dollar buy.
 19 Those things are unique to the field in terms of
 20 combat support, are unique and special, and they need to be
 21 called out as just a sort of separate field. But what
 22 really intrigues me is the fact that a lot of our
 23 acquisition force is now performed by service contracts.
 24 That's an erosion of in-house talent, capability, longevity,
 25 corporate memory, all those kinds of things. And I don't

<p style="text-align: right;">Page 18</p> <p>1 know that any of use really know the total ramifications of 2 that in the long haul. 3 That's all part of a larger context of what is the 4 available manpower pool in the United States across the 5 board doing this kind of work, whether it be developing 6 technology, fielding technology, servicing technology, and 7 so on. 8 One final segregated category of that service 9 area, which I think is a healthy trend on my own part, and 10 that is how much of the O&M is actually being performed by 11 industry, at least in terms of responsibility. There's some 12 health in that, but by the same token, systems are being 13 asked to last a lot longer than for which they were 14 originally intended, in many cases far beyond what 15 commercial equivalents would do. And it puts a real strain 16 again on the people pool, the training pool, the spares 17 pool, and all that kind of stuff. 18 So there is a challenge out there of long-term 19 availability and manpower, whether you're looking at the 20 government side, the industry side, whatever. The easy out 21 would be buy more, buy more frequently, and everybody would 22 have the latest, and it would be easy to keep up with all 23 that stuff. It is not. It's a heck of a problem. 24 CHAIRMAN KADISH: I think that's a reflection of 25 some of the information we have been getting, and we intend</p>	<p style="text-align: right;">Page 20</p> <p>1 lines. 2 Any comments? 3 MR. HAWLEY: Ron, in response to that first 4 question from the floor, I'd just be a little nervous in 5 leaving the impression that we're going to be able to 6 address in any substantive way the entire spectrum of those 7 issues, services, and so on. We can do it for, as you say, 8 over 55 percent of our contracted dollars while we're still 9 working our way through the big issues that we're going to 10 be able to deal with effectively. I think it would be 11 misleading to leave the impression that we're going to be 12 able to deal with that whole spectrum in the way that some 13 of you might like. Maybe our project director or chairman 14 would want to talk to that. 15 CHAIRMAN KADISH: Well, I would make a distinction 16 between a gathering of information and issues and dealing 17 with it in a study to whether or not we can deal with it in 18 the outcomes. And I think that's what you're saying. 19 One of the things we're struggling with, quite 20 frankly, is the sheer volume of things that can come out of 21 an effort like this, good ideas that ought to be addressed 22 in one way, shape, or form, and putting that all in context 23 and making it understandable with action plans is going to 24 be our major challenge. 25 So the expectation that you all ought to have is</p>
<p style="text-align: right;">Page 19</p> <p>1 to pay attention to that in the way we go about the study. 2 Along those lines, I've just got another question. Is there 3 a discrete plan to solicit the views of small business? 4 The plan is for us to solicit the views of the 5 entire public sector involved in this, either through these 6 forums or through interactions with the web sites, so that's 7 the discrete plan across the board. We've asked certain 8 folks to come to present to us out of industry based on 9 where we think we are right now. 10 I believe, however, that we're going to have a 11 discussion based on some of the issues that have come up 12 recently about whether to add formally representatives of 13 small business, professional services organizations, to a 14 more open forum discussion than we would ordinarily have. 15 And so we are going to probably -- we will take that under 16 consideration, and it's somewhat a matter of time and 17 logistics. 18 But if there are any inputs that are available to 19 us from small business in particular, I would hope that they 20 would put them in the system that we have designed for us to 21 review, and then we're going to look at more formal 22 presentations. 23 I would also ask for some recommendations on how 24 we would go about segregating out small business for 25 presentations, and who we would actually invite along those</p>	<p style="text-align: right;">Page 21</p> <p>1 that we will segregate the issues based on where we think we 2 can be most effective on the overall system, and that may or 3 may not include some of the things that people would like us 4 to include just because of the information-gathering 5 process. 6 Dave, do you have anything to add? 7 MR. PATTERSON: No. 8 CHAIRMAN KADISH: So you're right about the 9 expectation. The expectation is just because we gather the 10 information and listen to the issues and even frame the 11 issue doesn't mean that we will recommend that we address 12 any particular part when we look at it as a total. On the 13 other hand, when there's an elephant on the table, you have 14 to be sure you look at it. 15 Okay, let's see. I understand Mr. Farrell has 16 arrived, and so how about if we take a 15-minute break, or 17 let's make it until 10:00, and reconvene at 10:00 and start 18 with Mr. Farrell. Okay. Thank you. 19 (Recess.) 20 CHAIRMAN KADISH: Time has arrived. It's almost 21 10:00. We'll start early. I would like to welcome Mr. 22 Larry Farrell from the NDIA, and his perspectives today. We 23 really look forward to hearing what he has to say on these 24 issues. And I think he needs no introduction to the panel 25 or the audience at large, but he was not only president of</p>

Page 22

1 NDIA, but also former acquisition official in the Air Force
 2 is the way I guess I would put it, Larry, retired Lieutenant
 3 General.
 4 And so without going into too much preliminary
 5 formality, I would ask him to deliver what he has to say.
 6 Welcome, Larry.
 7 MR. FARRELL: Thank you, Ron. It's an honor to be
 8 here. It's an honor for NDIA to be able to present some
 9 thoughts. My thoughts come from not only observing industry
 10 in my present job and working through some of the issues,
 11 but also my service in the Air Force and the acquisition
 12 logistics field over some 33 years. So I've kind of rolled
 13 it all up.
 14 My first thought to you would be that you've got a
 15 difficult job. I'm not sure you will discover anything
 16 truly new, but you will discover different ways of looking
 17 at it, I'm sure.
 18 As I read the tasking that Mr. England gave you,
 19 he put it down to two things, cost and schedule problems.
 20 At least that's kind of the way I read his letter. And he
 21 said take a hard look at requirements, organization, and any
 22 legal decision process and oversight. And I think that is a
 23 good charge.
 24 To put it into perspective, I've given you a set
 25 of remarks. I think I would say that acquisition is a

Page 23

1 matter not only of execution, and when we talk about
 2 execution, we mean cost and schedule, but it's also a matter
 3 of expectations. And so a failure of an acquisition
 4 program, or problems with it, sometimes it's difficult to
 5 tell what the symptoms are and what are misplaced
 6 expectations and what are real performance.
 7 So my thought is, if you look at cost, some cost
 8 is driven by program performance. A lot of problems with
 9 cost are as a result of poor cost estimating to begin with,
 10 and it becomes a self-fulfilling prophecy. But schedule
 11 itself, it seems to me, is a function of program management.
 12 And so what I conclude, and I will probably end up on the
 13 back side after I talk about some of the problems I see, is
 14 that selection of program office talent and leadership plus
 15 the proper oversight. I don't mean DABs. And assessing and
 16 fixing accountability for program and acquisition
 17 performance seem to me to be three important elements. And
 18 I'm not so sure we do any of those very well.
 19 So, I believe one of the things you should focus
 20 on of those three things is how do we select and train PMs,
 21 and how do we make it a professional clear field. And
 22 number two, how do you oversee and guide programs which are
 23 underway? And number three, how do you fix accountability?
 24 I think that is probably the poorest -- that last one is
 25 probably the poorest thing we do right now.

Page 24

1 Having said that, I think it is also fair to
 2 observe that our system for acquisition in this country is
 3 still the best in the world, for all of its problems. And
 4 the reason it is, is because we continue to analyze it and
 5 assess it as we see problems. And I think that is good and
 6 I think this is a good project that you've got underway
 7 here.
 8 It's a complex system, but I think it is important
 9 to note that acquisition experience, and I think this is
 10 really important, is more art than science. I don't think
 11 it is something that is a matter of milestone charts or
 12 education. I think expertise and excellence in the
 13 acquisition is gained through training, and I mean primarily
 14 on-the-job training. Us having being through several SPOs
 15 and gathered lots of scar tissue, I think it's a matter of
 16 practice, and I think it's a matter of appropriate mentoring
 17 by experts.
 18 And if you don't have that, if you don't train
 19 people well, you don't let them practice, and you don't
 20 mentor them properly, I don't think you're going to have
 21 good acquisition systems.
 22 I notice your charter said that you're going to do
 23 a lot of reviews, and so you probably looked at Goldwater-
 24 Nichols, the Packard Commission, the 5000 series re-write,
 25 JCIDS process, and something called the Beyond Goldwater

Page 25

1 Nichols Phase II. I would commend the Packard Commission to
 2 you and Beyond Goldwater-Nichols Phase II. I think they
 3 have some good things in there. I think the Packard
 4 Commission had some good things we never implemented or we
 5 implemented incorrectly. And so I think you ought to take a
 6 hard look at that.
 7 So given all this review, you're going to re-learn
 8 a lot of things that we used to know, we used to do right,
 9 and that we've walked away from. As you look at all of the
 10 structure and guidance out there, there is still a lot of
 11 conflicting guidance. There's a lot of things added, we
 12 continue to add things. But we don't always take things
 13 away. There's lot of process and we have a pretty top-heavy
 14 bureaucracy today.
 15 And I believe that you have very poor oversight
 16 for the acquisition process, and I'm not talking about DABs,
 17 but I'm talking about true oversight and review at several
 18 levels. And I believe the accountability at the top is not
 19 well fixed. You have lots of people in the process who are
 20 willing and able to say no, but you don't have any one
 21 person who is designated to say yes and be held accountable
 22 for the performance of that thing he or she said yes to.
 23 And so in the past, in the Air Force a long time
 24 ago we had a systems command, we had program reviews at the
 25 product center level, probably two or three reviews at the

Page 26

1 product center. We had at least two reviews at the major
 2 command, and then we had a review at the acquisition staff,
 3 at the air staff, and then we had a review at the council
 4 level at the air staff.
 5 And what the system did was it took a lot of the
 6 rough edges off of the program before it got to a final
 7 level review so that they were doing with just a few issues,
 8 and yet you had a much more excellent program when it got to
 9 the top. We don't have those kind of reviews now. And we
 10 have a system where requirements and system acquisition are
 11 in two separate domains. The service acquisition, executive
 12 acquisition, where the chief of the service owns the
 13 requirements process, and I don't know that you can fix
 14 accountability when those two things are split.
 15 So we've over the years piled our process, we've
 16 scattered acquisition centers around, we've diluted program
 17 management, and I believe in some cases we've confused
 18 training with education. And in the process we've diluted
 19 the importance of the acquisition career field as a career
 20 field.
 21 So I think a series of solutions, and these are
 22 something that I would recommend you take a look at, if
 23 you're going to align authority for requirements with the
 24 system delivery to make one person accountable, I think you
 25 can look to the service chiefs to do this. That doesn't

Page 27

1 mean you take the service acquisition executive out of his
 2 authority and responsibility, but you put the finger on
 3 somebody who's got requirements and a system development in
 4 one place so that you can hold him accountable for that.
 5 And I think at the same time you need to take a hard look at
 6 improving the training and selection of the management
 7 within this career field.
 8 And as you look around too, I see a lot of
 9 scattered acquisition authorities. You have some
 10 acquisition authorities in the PEOs and the PMs in the
 11 field. You have some in the Pentagon and the staff. There
 12 is no one person I see that is accountable in managing the
 13 whole process. And so I'd put all the acquisition authority
 14 in one place, and I would recommend that be the acquisition
 15 command.
 16 The other thing I see is that program managers
 17 have responsibility to deliver a program and they have some
 18 resources, but they don't have all resources. In some cases
 19 their ability to contract for their own engineering services
 20 and their assistants and advisory services reside somewhere
 21 else, and we've seen a proposal in the current authorization
 22 act on the Hill that would create service acquisition
 23 centers within each service, where you would center all of
 24 that up.
 25 I would remind you that we tried something like

Page 28

1 that before. It was a thing called the Brooks Act where we
 2 singled up information technology in GSA, and remember that
 3 failed and we went away from it. So this 802, which is
 4 trying to single up service acquisition in one place, we in
 5 industry think is a bad way to go.
 6 So going on to other elements here, I just would
 7 mention that I think there's insufficient appreciation for
 8 the role of profit and risk in the contractors and contract
 9 performance. If you want to get into that in the Q&A I'd be
 10 happy to.
 11 I see some contracts out there that place
 12 arbitrary limits on profit, efficiency, and pass through.
 13 These are limits in addition to those limits which were
 14 already placed as statutory. I think we just add too much
 15 free-wheeling going on out there. If you want a good
 16 contract, I think competition is the answer. Good
 17 competition will get you good contracts and good costs, and
 18 not putting arbitrary limits on profit. Keep in mind we've
 19 got weighty guidelines out there, but they're not always
 20 followed.
 21 I think if we continue down the path of putting
 22 arbitrary limits on doing things, like there's a process out
 23 there called cascading small business, where you ask
 24 industry to bid on a contract and then at the end you decide
 25 that you're going to set it aside for small business, but

Page 29

1 what happens to the P&P that these companies have put up
 2 get into the business. And then their bids are never
 3 opened. I think that's a bad process. In the end, they're
 4 going to get down to where you're going to be edging out
 5 high technology offerings, the ability to get best value,
 6 and this will tend towards a low-cost shootout, and you
 7 won't be getting the technology which we really need for our
 8 programs.
 9 Some other issues. I noticed that you're looking
 10 at requirement stability. I think if you single up
 11 accountability, you will solve much of the problem you have
 12 with the requirement stability.
 13 There's also a thing called non-material
 14 solutions. I noticed the process going on within some of
 15 the joint commands. They do a lot of joint test and
 16 evaluation now. That is, they go out and do something which
 17 is like an experiment, but they put the rigor of the test
 18 and evaluation process on it, and are coming out with some
 19 great ideas.
 20 Let's say for Iraq right now, which involved non-
 21 material solutions to the serious problems, I don't think we
 22 pay enough attention to that. Another thing I think is that
 23 we think that the perfect is the enemy of the good, and we
 24 hold out for the best possible system we can get without
 25 realizing it's going to take some time to get it. If you

Page 30

1 just look at some programs like the F-16, which I think is
 2 probably the best program the Department of Defense has ever
 3 seen, it was really pretty much an evolutionary acquisition
 4 process, and we had milestone charts for that, and we had
 5 cut-in areas where we wanted to put technology on the F-16.
 6 But when we got to that point in the program, if the
 7 technology was not mature, we bypassed that particular
 8 milestone and went on with something else.
 9 One good example of that is OSPJ, which we thought
 10 we were going to have on the F-16. We still don't have
 11 anything like that today, but we still have a pretty good
 12 airplane.
 13 I hope you take a look at tests and system
 14 engineering tests, I think, cause a lot of problems with
 15 schedule, because we put in sufficient resources up front to
 16 get test asset. We build in insufficient lead times for the
 17 test program, and in the end we end up paying more money on
 18 schedule because we always get behind in the test program.
 19 The cost estimating, I think, is a big part of our
 20 problems. I don't know how you fix that. But what I've
 21 noticed is that CAKE normally is a lot closer to system
 22 estimates than the services are. Then I think you ought to
 23 take a look at how CAKE does it, and maybe put some
 24 structure around cost estimating. I don't know quite how to
 25 fix it, but I do know that if you look at parametrics, we

Page 31

1 also used to say a fighter would always cost \$1,000 a pound.
 2 Well, that's always been about right. We didn't need any
 3 fancy cost estimate. Of course, that's accelerated now and
 4 it's probably \$2,000 a pound due to inflation. But
 5 nevertheless, if you look at any fighter program, what it's
 6 going to weigh, and you can estimate the cost yourself. You
 7 don't do a very good job of that.
 8 There are other problems out there that there's no
 9 real solution for. It's a lot tougher now because we're
 10 doing systems subsistence acquisition versus platform
 11 acquisition. And there's a lot more software in our
 12 systems, lines of code, and impact and cost schedule. And I
 13 think there are some things we can do. Number one, there
 14 are some good rules out there that we ought to follow. We
 15 have a little bit of chance, we have to do analysis of
 16 alternatives for major systems acquisition. Why don't we do
 17 that for the tanker?
 18 And we have a lot of ethics rules out there too
 19 that we need to follow. Ethics is a big deal for my
 20 association. The GAO has done a study, and I've got a copy
 21 of it here if you would like it, it came out in March 2005,
 22 Major System Acquisition Weapons Programs. And they talked
 23 about three things which I think you ought to take note of.
 24 And one is, is that technology maturity, design stability,
 25 that means 90 percent of design drawings and production

Page 32

1 maturity, if you follow those three things once a program is
 2 underway, you have a pretty good chance of the program
 3 staying close to cost and close to schedule. I think it's a
 4 great report.
 5 Also, the DOD now has a framework for its
 6 acquisitions, which we employed before, we didn't call it
 7 that. I think we need to re-emphasize that. That is a good
 8 way to get things to the field. And we can upgrade them
 9 through modifications and technology, as technology matures,
 10 we can make it better as we go forward.
 11 There's a thing called a foreign comparative test
 12 program. We're in a global defense industry now. There's a
 13 lot of good technology that our allies produce. It doesn't
 14 cost us anything to develop it and put it together or set up
 15 a logistics system that is already there. We ought to take
 16 a hard look at some of those things. And some of the things
 17 that we have in our system now came to us through foreign
 18 competitive test programs.
 19 I think we ought to re-emphasize fair profit
 20 policies for industry as well. And I think we ought to make
 21 sure that the PMs have the authority over the contracting
 22 and the resources which they need to do their jobs. And I
 23 would re-emphasize, again, I would return the acquisition
 24 system to the service chiefs and the acquisition command,
 25 and encouraging at the same time joint experimentation and

Page 33

1 joint T&E and model simulation enhancement.
 2 But in the end, you've got to find a way to force
 3 trade-offs between the perfect and the possible. And I
 4 think you do that by allotting the accountability and
 5 authority for acquisition and requirements in the same
 6 person, and getting operators involved up front in iterating
 7 requirements.
 8 If you look at the Air Force acquisition of the
 9 JPATs, there were a lot of people who said the Air Force
 10 would never buy a trainer that wasn't a jet. And we had a
 11 commander in the training command at the time, General Jo
 12 Ashy, who sat down and rolled his sleeves up and went
 13 through the requirements iteration. And he asked a
 14 question, what kind of airplane do we really need? And
 15 there a lot of people in industry who were wanting to bid
 16 jets, but there will also some people with turboprops.
 17 And in the end that requirements iteration that
 18 General Ashy went through said that our requirements for a
 19 permanent trainer could be satisfied possibly by a
 20 turboprop, and that is what the Air Force bought, and it's
 21 proving to serve well. But I don't think we would have ever
 22 arrived at that point without the involvement of the major
 23 commander in that process. We probably would have a jet
 24 today which would probably be okay, but we probably would
 25 pay a lot more for it than we're paying for the JPAT. So I

Page 34

1 think that is good to know.
 2 Anyway, I come back to hit the program managers
 3 and how we train acquisition professionals. I think that's
 4 really a big deal and we need to get on that. If you want
 5 to talk to some other people that have good views on this, I
 6 would suggest you might consider to General Ron Yates and
 7 General Larry Skance. Larry Skance is really big on the
 8 human capital piece of this.
 9 That's all I have. Thanks, Ron.
 10 CHAIRMAN KADISH: Thanks, Larry. Now we're going
 11 to subject you to some questions if you don't mind.
 12 MR. FARRELL: Please.
 13 CHAIRMAN KADISH: Let's start with the panel.
 14 Anybody like to entertain? Dick?
 15 MR. HAWLEY: Larry, I would agree the F-16
 16 certainly ranks up there with our model acquisition programs
 17 in that it was an evolutionary development. But it seems
 18 that since that time there's been a tension developed that
 19 makes it harder to do those kind of things. And the tension
 20 is in the requirement process and the need for a new system
 21 to be better than the old one by a lot, whereas the F-16,
 22 when it first came out, was essentially a day fighter. It
 23 couldn't do very much. We accepted the fact that the first
 24 block was going to have pretty modest capabilities.
 25 What are your thoughts on this tension? And are

Page 35

1 there ways that industry would suggest we deal with it?
 2 MR. FARRELL: Well, we ought to think about how the
 3 F-16 came about. You know, there was some new development
 4 on it, but there were some things it put on it that while
 5 new to fighters had been developed in previous R&D projects.
 6 So you take the engine, it was an engine that was
 7 essentially, had flown on the F-15, so the engine was not a
 8 new thing.
 9 But what was new about it was putting such a
 10 powerful engine in a single-engine fighter. That was the
 11 new thing. We had some technology that was available to
 12 give us greater thrust to wait, fly-by-wire, while it was
 13 new on airplanes, had been an R&D project that had proven
 14 that technology at the analog fly-by-wire centers said that
 15 wasn't new. So it was essentially integrated in an engine,
 16 and fly-by-wire, a lot of the components on that engine,
 17 hydraulic pumps, came off of the F-111. And you look at
 18 some of the actuators on there, and they were similar to
 19 actuators we had on other airplanes.
 20 What was new was some of the avionics that we had
 21 on there, and to everybody's surprise, the avionics worked
 22 much better than we ever expected because we had made the
 23 transition from analog to digital avionics, and digital
 24 performed better.
 25 But I flew the early models of the F-16, also I

Page 36

1 flew a lot of F-4s, but my observation was that the F-16 was
 2 a much better performer than the F-4 in every aspect, not
 3 only bombing accuracy, but reliability. I mean, we went out
 4 to the airplane, got in it, it worked. And the radar on it
 5 was unbelievable. It was an order of magnitude improvement
 6 over the F-4 radars, and those of us who went from F-4s to
 7 F-16s we thought it was -- you called it a day fighter -- we
 8 thought it was a pretty sophisticated airplane.
 9 But I think the reason was, we didn't take too
 10 many chances with the thing. It was a demonstration program
 11 to begin with, not an acquisition program. So there wasn't
 12 a lot of rules you had with the acquisition program, it was,
 13 let's just put this thing together and see if it will fly.
 14 And it proved to work so well, both versions, that we said,
 15 hey, let's buy this thing, it's going to work.
 16 And so I think the success of it was because it
 17 allowed them to take some chances. I don't think we put a
 18 lot of money into the development. It was not as much as
 19 some of the things we're putting in today. And we used a
 20 lot of proven technology and we didn't try to push something
 21 to the market, something that didn't work.
 22 And so I think the lesson you can take away from
 23 that is, take a hard look at your technology, just like the
 24 GAO said, technology matured is very important, and we don't
 25 have the discipline right now to do that.

Page 37

1 Also, I think the requirements process, we need to
 2 take a hard look at that, to the F-22. The F-22 has a
 3 maneuverable engine in the back, which add a lot to weight
 4 and cost. If we need the F-22, it's going to cost as much
 5 as it does and have the problems, would we have elected,
 6 would we have made the choice in a requirements sense to put
 7 those maneuverable engines back there? Maybe that is
 8 something we should have looked at a lot harder, because
 9 given the missiles and the weapons performance we have
 10 today, maybe maneuverability isn't as important for that
 11 particular airplane as all the other things we've got in it.
 12 I think that if you return the systems performance
 13 to the chief, and he's also the guy that's got to answer for
 14 schedule performance and cost of the system, I think you'll
 15 put a lot of discipline back in the requirements process,
 16 because right now the chief doesn't own the acquisition
 17 systems, he doesn't have to answer for its performance. He
 18 just has to say, this is what I want. And I think if he was
 19 responsible for bringing that thing to market, he would
 20 approach his requirements definition a lot differently. He
 21 might have more operators involved in the requirements
 22 iteration, like did General Ashley did it, because it was the
 23 right thing to do.
 24 But I think you need a system which forces that,
 25 because not everybody will have that insight that he had.

10 (Pages 34 to 37)

1 Is that responsive? Not quite, huh?
 2 MR. HAWLEY: It is. I guess the itch I'm trying to
 3 scratch is, we seem to want the first tail number of a new
 4 product today to be at least as good as whatever it's going
 5 to replace, if not twice as good, which makes it hard to do
 6 true evolutionary acquisition. The F-22 had to be twice as
 7 good as the F-15. We had to test to that, which tends to
 8 drive you to want to build your ultimate airframe as your
 9 first deliverable, and that makes acquisition harder,
 10 evolutionary acquisition harder, and we're struggling with
 11 that.

12 MR. FARRELL: It's because -- well, here again,
 13 it's the guys that are setting the requirements. In this
 14 case, they're not responsible for the delivery of the
 15 system, so you have to put some reality in it. You have to
 16 set the accountability at the right level. I think that is
 17 what you have to do.

18 And I think if you do, if you put the
 19 accountability in the same guy who's responsible for both
 20 things, then he's going to work a lot harder on it, and I
 21 think you will get that. I think that's what you will
 22 achieve if you get that.

23 CHAIRMAN KADISH: Larry, let me challenge that,
 24 because we've heard it from a number of people. If you go
 25 back in time, circa 1985, 1980, in those time frames, we did

1 have that across all services, and that's what got us the
 2 Packard Commission. So what's different today? Or what
 3 would we have to give the service chiefs -- and notice we
 4 didn't say Secretaries -- in terms of the incentives to make
 5 those trades, other than changing reporting requirements?

6 You may not need to respond to that now, but one
 7 of the things we're struggling with, or at least I am, is
 8 what got us the PEO system and Goldwater-Nichols were
 9 perceived problems with the reporting and owner-less staff
 10 of systems command type of activities in the early 80s.

11 And now we've got the PEO system and the AT&L process. What
 12 now, almost 15 years since Goldwater-Nichols, and we still
 13 have the same problems. So moving it back and we have to do
 14 something other than just say, you've got the incentive to
 15 do it, chief of staff, so figure out how to do it.

16 MR. FARRELL: Well, I would probably take issue
 17 with some of the unsaid assumptions. But, look, when the
 18 chiefs were in charge of this, we produced the F-86, the F-
 19 16, the Abrams tank, still the best tank in the world, F-
 20 16s, a wonderful fleet of submarines and carriers. You look
 21 at all the services and all the things we produced during
 22 that time, you have the Packard Commission put its finger on
 23 some problems. But that didn't mean that the solution was
 24 to split the system to blow the system apart. We had some
 25 pretty good performance in those days.

1 And I was talking to General Hawley here before we
 2 started, and I said, you could even look at some of the
 3 programs we thought we had problems with, like the B-1, but
 4 keep in mind too that with technology maturity in that
 5 program we got two places in the B-1 development where the
 6 technology wasn't ready. We just went ahead and passed it
 7 by. And we delivered a system which is a lot cheaper than a
 8 lot of systems we're delivering today, and that airplane
 9 served us well.

10 And I would say some of the acquisition problems
 11 that we traditionally hear we need to put in context, but
 12 like the \$300 toilet seat, the \$100,000 pulley puller, those
 13 kinds of things, those are easily explainable, but we never
 14 explained them very well. It wasn't a whole toilet seat, it
 15 was the whole toilet. The \$11,000 was for the engineering
 16 that went into the first item. So a lot of the problems
 17 that we have are things we didn't explain very well, it
 18 seems to me.

19 CHAIRMAN KADISH: Anybody else?

20 MR. KOZLOWSKI: One of the things you alluded to
 21 was putting the requirements and the execution, putting them
 22 together and holding them accountable. The tacit assumption
 23 in that is they've got the budget, they've got the funding
 24 profile to go execute. And yet there doesn't appear to be,
 25 even in prior years, any mechanism that literally gives them

1 the power to go grab the budget they need. They're still
 2 vulnerable to that.

3 I come from the school that says if you want to
 4 get something done, I don't care if it's a bunch of Girl
 5 Scouts or whether it's a bunch of engineers building a
 6 program, give them what they need, give them the authority
 7 and responsibility and accountability and get the heck out
 8 of their way. We don't tend to do that. We muck around
 9 with the budget on a daily, if not annual, basis, and things
 10 sort of go awry.

11 How would you envision all three dimensions, the
 12 money, the requirement, and the execution coming together so
 13 that people can literally get on with their job?

14 MR. FARRELL: Okay. That's a good question. Keep
 15 in mind the problem is the chief still wants -- he's
 16 responsible for putting the problem POM together. One of
 17 the problems with the POM, and we've all been there every
 18 year, there's a \$2- to \$4 billion hole there, and every
 19 service problem, and the question is, how do you close it?
 20 Why is that?

21 Well, in the acquisition business, a lot of that -
 22 - the reason for that is that we've underestimated the cost
 23 of our acquisition systems up front, and so when these
 24 things go in the POM at a certain dollar cost, and you
 25 program the money over five or six years like we always did,

Page 42

1 and I'll tell you every time I'm putting my POM together we
 2 walked into the POM meetings and somebody was always laying
 3 a new bill on the table for a new acquisition system, which
 4 could have been anticipated.
 5 So I think part of the fix to this is better cost
 6 estimation up front, and if it's too expensive, it doesn't
 7 get in the POM, it doesn't go forward. And so you only
 8 budget for what you can afford. Our problem has been we
 9 have been stuffing in there things we couldn't afford.
 10 And the way we fix it is we take up our
 11 acquisition programs and give them a 5 or 10 percent hit,
 12 favor bills for the big acquisition programs, and we start
 13 breaking other acquisition programs. We've done this for
 14 years. Why? The reason is that cost up front. And we've
 15 been reluctant, I think, to kill programs.
 16 You know, this administration has killed some Army
 17 programs and I've applauded the Army for some of the things
 18 they did. But you've got to have -- and if you can make a
 19 recommendation here for disciplined cost estimating, I think
 20 that would be a real step forward. But the willingness to
 21 kill programs that are not performing or we decide we don't
 22 need, I think we need more of that too.
 23 MR. CAPPUCCIO: Larry, do you believe it's cost
 24 estimating, or it's trying to squeeze a lot of stuff into
 25 too small a box? In other words, if you gave them the right

Page 43

1 cost estimate, then a number of items would fall out, and
 2 it's a lot easier to POM everything you want regardless of
 3 what the costs are, to put that system up.
 4 My understanding is that there is no target number
 5 given to the chiefs at the get-go. So it's like giving my
 6 wife a credit card and saying, tell me what you want to
 7 spend and go spend it. There is no top-down direction that
 8 says if you're going to POM over the next three years,
 9 service chiefs, here is an allocation of dollars.
 10 One of the things we're finding is there is what
 11 the estimate would be, and there is what we would -- the
 12 optimum would like it to be. And the optimum is degrading
 13 what the reality costs on the program from the very very
 14 get-go are. And once you commit to a dollar figure for the
 15 program, reputation, egos, advocacy, all tend to keep the
 16 opposites talking. So to what extent should the Under
 17 Secretary and Secretary of Defense start putting down and
 18 legislating top-down numbers? If this is what I can afford,
 19 this is your share, and plan to it. To what extent do you
 20 think that would help the system as opposed to hurting it?
 21 MR. FARRELL: Well, what you say is true. There is
 22 a process that, okay, we've got an airplane, now we have to
 23 start cramming all the capability into it and everybody's
 24 running to the table with what they want. There's a lot of
 25 that that goes on, and it reflects a lack of discipline in

Page 44

1 our requirements system, which we all know about.
 2 But at the end of the day, what's the result of
 3 all that? I think we need to look at the thing in total.
 4 So let's just pick a system. Let's say, pick B-2s or pick
 5 F-22s, which we know a lot about. We were going to buy 130
 6 B-2s, and I think the original number for the F-22s was 648.
 7 And that's gone down -- was it 732?
 8 MR. HAWLEY: It was somewhere in the 750 range.
 9 MR. FARRELL: 750, and then we went to 648, and we
 10 are trying to dribble down to where we are today. So
 11 there's no free lunch here. You're running all this stuff
 12 in the beginning and you try to get a perfect airplane and
 13 it takes you 25 years to get it. It's going to cost what
 14 it's going to cost, and in the end you will get that
 15 airplane, but you will get two of them or three of them.
 16 It's like the cost of submarines, the cost of carriers, and
 17 all that kind of stuff.
 18 So that's why I say if you have a professional
 19 acquisition corps or professional acquisition system, you
 20 have a disciplined cost estimating, which we don't really
 21 have that today, you would address a lot of this. But maybe
 22 since the CAKE always been pretty close to right, maybe we
 23 force the services to use the CAKE number. How do you
 24 budget? I don't know.
 25 MR. HAWLEY: Let me pull that thread a little bit,

Page 45

1 Larry. One of the things that we seem to see as you
 2 research the literature and all the prior work that's been
 3 done here, is there are decent estimates out there. We just
 4 don't use them. There seems to be an incentive. But you
 5 are a programmer for the Air Force, so you've dealt with
 6 this firsthand. I would be interested in your view as to
 7 how we change it. There seems to be incentives to
 8 underestimate cost and thereby pack as much programming
 9 content as possible into whatever the programming guidance
 10 is.
 11 Those incentives obviously must come from a lot of
 12 places. There are political pressures from Congress.
 13 There's a lot of advocacy groups all over the place,
 14 something that incentivizes the system to accept a lowball
 15 estimate, and thereby allow a lot of content that we
 16 wouldn't otherwise put in the program. Any thoughts on how
 17 to deal with that incentive structure in a better way than
 18 we have in the past?
 19 MR. FARRELL: Well, the problem in budgeting, the
 20 budgeting process, we deal with it every day because you're
 21 given a top line by DOD. You're never given the money you
 22 request. You're always put in a budget and you always get
 23 top line back which is less than you thought you needed. So
 24 then the drill is to stuff whatever you've got left into
 25 that top line.

Page 46	Page 48
<p>1 And the way we fund the big programs is we go 2 through and we chop a little. We don't get programs -- when 3 I was doing the POM, we didn't get programs with as little 4 as \$2 million a year in there to see if we can find the 5 \$500,000 to kick over to a program which needed a billion 6 and we find \$500,000 here and \$100,000 there. The 7 programmers, I think, always do a pretty good job because 8 they're honest brokers in the process.</p> <p>9 It is difficult. It is difficult because the 10 acquisition system is so diffuse now, you've got so many 11 centers of power. I would get my POM back sometimes with 12 direction from OSD to put X number of million dollars into 13 it, the cost for a program that I didn't know how to DAB or 14 didn't know how to do it.</p> <p>15 And so to me you need to bring all the programs 16 back into one place. They're scattered around too much. 17 And I go back to finding a way to make people accountable 18 for the performance of that, and the process we have right 19 now doesn't work. I mean, you look at some of the space 20 programs which the Air Force has acquired. The problem is 21 some of the clients aren't in the Air Force, so they've got 22 a program they're acquiring that somebody lays a bunch of 23 KPPs or requirements on them, comes back next year and lays 24 more on.</p> <p>25 So the way you can make people accountable is to</p>	<p>1 they define the structure of the program, they define the 2 structure of the contract. They are the ones that go 3 through the competitive process for bidding. And industry 4 is going to do what the government wants, and if the 5 government has a bad game plan, industry a lot of times goes 6 along with it, because that's the customer.</p> <p>7 And I think a lot of the problems we see is as a 8 result of the way the thing is set up in the beginning. But 9 we have contract structures, we have fees, we have all kinds 10 of fee structures. We have firm fixed price. If you select 11 these appropriate contract vehicles, if the government does, 12 there's always a possibility of holding industry accountable 13 for the performance by withholding money, withholding 14 profit.</p> <p>15 And whether it's a cost plus award fee or fixed 16 fee or incentive fee, those things will work. When I was in 17 the Air Force, I used to own the contract to run Tuluuma, 18 which is the Air Force engine testing facility in Tennessee. 19 That's a cost plus award fee contract. The award fee on 20 that is only 4 percent, which was not very much in my day. 21 I think the whole thing was about \$200 million a year, and 22 the total fee was pretty small.</p> <p>23 But those guys were very responsive to inputs on 24 what we wanted to fix and performance, just by withholding 25 just a little bit of that. We really got their attention.</p>
Page 47	Page 49
<p>1 take the money out of their budget, make them budget for it, 2 because if somebody else is paying the bill, there would be 3 no end to the demands for quality in a system.</p> <p>4 In some cases, I guess, this is a good point, 5 because in some of the acquisition you've seen it's not good 6 because they're not paying for it.</p> <p>7 CHAIRMAN KADISH: Okay. We've talked about the 8 accountability, and at least I understand what you're 9 talking about the government level. I'd be interested in 10 your perspective again if you want to come back and answer 11 this question. It's okay, but what about industry's 12 accountability? We have contracts with industry. How do we 13 hold industry accountability for a failed program, because 14 after all, they're the ones that are supposed to produce it? 15 And when we have major problems with our acquisition 16 programs, some have told me, some would assert that there is 17 no accountability in industry in terms of the paying of 18 accountability of a particular program other than 19 potentially cancellation, which is few and far between.</p> <p>20 Can you comment, what is industry's accountability 21 for a failed program?</p> <p>22 MR. FARRELL: Okay. I knew that question would 23 come up. I've been thinking about that. I go back to the 24 start-up of the program. The program is defined in the 25 beginning by the government. They define the requirements,</p>	<p>1 So I would say the proper contract fee is the way you do 2 that. And sometimes there's a reluctance to hold industry 3 responsible for what they're doing on the part of the 4 government, and the government has to step up in that, 5 because industry agreed to accept this contract. The 6 government said, okay, what do you want me to do if they're 7 not doing it? The government has got to hold them 8 responsible.</p> <p>9 MR. CAPPuccio: Larry, it's been my experience when 10 it comes to award fees, very rarely does the government 11 program actually give out zero award fees for poor 12 performance, very rarely do they do that. Part of it is the 13 humanistic trait of it's a reflection on him as well. To 14 what extent do you think getting industry's attention with 15 zero reward fees would change the behavior of industry 16 executives?</p> <p>17 MR. FARRELL: Most award fees I see are in the 18 neighborhood of 85 to 90 percent plus, even on programs 19 which are in trouble. So then you have to go back and say, 20 well, why is the government program manager awarding an 21 award fee at 85 percent for a program which is in trouble? 22 I don't think you have to go to zero. I think you 23 can go to 50 percent where you can get a lot of people's 24 attention. You ought to take a look at, ask the contract 25 guys over there at Fort Belvoir to take a look and see what</p>

Page 50

1 the average award fees are for programs. You might be
 2 surprised at that.

3 CHAIRMAN KADISH: I would like to make a comment on
 4 that just from my experience, and others might jump in. But
 5 I think that's an important issue in terms of the award fee.
 6 Most contracts are structured that way now. But what I've
 7 found is, because of the funding limitations, that is how
 8 long dollars are available to fund the particular contract,
 9 two years and then they expire, and when you get into the
 10 financial manuals it forces award fees to be put on process
 11 and management interaction, as opposed to the delivery of
 12 the product.

13 So you get into a situation where your management
 14 interaction in the process meets the criteria for the award
 15 fees, but if you're not delivering the product, you still
 16 have to give them the award fee, because that's the way it's
 17 structured, and it's a legal activity. And the reason for
 18 that is you cannot pay for product delivery later on with
 19 the funding restrictions we have, or at least every
 20 financial manager has told me that in the past.

21 So there are some real structural issues here that
 22 we probably need to look into. But this is a key area in
 23 terms of accountability at all levels.

24 MR. FARRELL: The way you asked the question it was
 25 almost like there's some real bad things going on in

Page 51

1 industry. But I come back to the point that industry really
 2 responds to government by and large, and it's competitive,
 3 it's pretty darn competitive out there in order to get a
 4 contract and to keep it. It is important to most of these
 5 guys, I mean really important, so they're very sensitive to
 6 implications that they're not performing.

7 CHAIRMAN KADISH: Well, it's a very sensitive
 8 question in a lot of respects. But just as we talk about
 9 government accountability, we need to look across the chain
 10 of performance and make sure that the accountabilities are
 11 consistent and coherent in the process.

12 But we can't deny the fact that industry, we
 13 don't, and the government doesn't produce the products. But
 14 if we're a bad customer, it could be a very bad thing for
 15 the industry. On the other hand, I'm not sure we can at
 16 this point dismiss the fact without more discussion that we
 17 do depend on industry to produce the products, and if
 18 they're not producing in partnership with the government,
 19 even at arm's length, then what's the problem? And is it
 20 only on the government side?

21 MR. FARRELL: Well, you've got some other tools
 22 too. You have the performance assessment you do in contract
 23 performance, which goes into the record. And kind of my
 24 view when I was in the government, when I was awarding
 25 contracts, and you would look at the C part, and let's say

Page 52

1 you would know the XYZ Corporation had some problems, but
 2 you wouldn't find that on the record so you couldn't use it.
 3 So the government is not always as good as they need to be
 4 in actually filling that thing out so succeeding program
 5 managers can use that data in awarding contracts based on
 6 past performance.

7 MR. PATTERSON: I would just like to go back to a
 8 question earlier about moving the acquisition responsibility
 9 back to the service chiefs. Indeed, during the mid-æ80s,
 10 the issue was fraud, waste, and abuse, and there was a lot
 11 written on it, and a lot of the literature reflects that.
 12 And so the answer was to move it, along with other things
 13 that came with Goldwater-Nichols, but an element of that was
 14 that at the time, the unified CINCs felt as though the
 15 services were not particularly attentive to their needs.

16 And so a consequence, the current structure was
 17 put into place to ensure that the CINCs were adequately, I
 18 guess, catered to, if you don't mind that term. And to take
 19 it back to where it was, how do you ensure that the near-
 20 term requirements of the unified CINCs are accommodated, as
 21 well as the long-term needs, which perhaps don't reflect the
 22 immediate concerns of the CINCs?

23 MR. FARRELL: Well, the near-term needs are
 24 satisfied by and large by allocating forces to them, the
 25 kinds of forces they need and the way they want them,

Page 53

1 because there's not much you can do in the near term to fix
 2 it. But the CINC, it seems to me, he's focused on if the
 3 war starts tomorrow, how might I fight the war? So he's
 4 looking at it as today's structure and now he's going to
 5 fight the war if it starts tomorrow or next week.

6 For the far term, the CINC doesn't -- that's kind
 7 of not his focus. He doesn't have the staff to even
 8 entertain those kinds of thoughts. So to get him into far-
 9 term thinking, I think you would really have to radically
 10 change how he's organized and what resources he has to do
 11 it.

12 But it seems to me the services have done a pretty
 13 good job of the far-term thinking, because of the systems
 14 that we have, if you want to link the CINCs' immediate needs
 15 to some development effort, I think a good way to do that is
 16 ACTDs and experimentation. And I personally like the way
 17 Jiffy COM is set up. I like the experimentation. I think
 18 we need a lot more joint experimentation, and I have
 19 encouraged that in that direction, and ACTDs have really
 20 spun off some things, which have gone on to perform really
 21 well in combat, and we got them in a pretty short period of
 22 time. So I like that process.

23 CHAIRMAN KADISH: In terms of the industrial base,
 24 we've seen some assertions and statistics that say that we
 25 had an industrial base in 1985 of 25 contractors, many

<p style="text-align: right;">Page 54</p> <p>1 thousands of people, that type of thing. And today we're 2 asking the same type of competitive opportunities out of a 3 much smaller industrial base, measured in single digits. 4 Certainly two or three major primes, maybe four, can get up 5 to five maybe, and then we have a vertically integrated 6 structure in terms of the consolidation that's happened. 7 Is it realistic to expect that we could introduce 8 or take advantage of competition the way we have 9 traditionally thought about it, given the industrial base we 10 have today? And what effect on the acquisition system will 11 it be if we ignore the fact that the industry has 12 structurally and fundamentally changed? 13 MR. FARRELL: That's a good question. I don't 14 think it has an easy answer. One of the things I kind of 15 glossed over and I didn't really deal with in any detail was 16 pointing competition to a healthy acquisition system. A 17 good competitive system is going to give you, I think, your 18 best cost and your best quality. If you do competition 19 right, and if you have good competition, a lot of the rules 20 and structures we're talking about here aren't as important. 21 And it is true that we've got a lot lower number 22 of primes, and we need to be very careful about future 23 consolidations in the industry. But right now, I think it 24 is inevitable that some of the competition is going to come 25 from overseas. I mean, we've seen that with the</p>	<p style="text-align: right;">Page 56</p> <p>1 those contracts, and so you are in some of these structures 2 limiting competition. And so it's not truly open to all the 3 people in the market. And we see some of that, especially 4 in the software and engineering kinds of things. 5 MR. KOZLOWSKI: This may put you on the spot, but 6 would you rather see some unraveling of the merger mania 7 that has gone on in the United States, as opposed to going 8 offshore to pick out the competition? 9 MR. FARRELL: Well, that is not my call. You need 10 the Assistant Secretary for Industrial Matters. It seems to 11 me they've taken a hard look at all the mergers, like 12 between Northrop and Lockheed, which was approved, and when 13 Northrop picked up the shipbuilding things, I know that was 14 looked at very differently. It was a very difficult 15 process. 16 If you want to look at something that -- shipyards 17 is kind of an interesting thing. We've got lots of ships. 18 Well, we don't have a lot of shipyards, but we have probably 19 more shipyards than we have ships to build right now. And 20 they're talking about building a submarine between the two 21 shipyards. You've got one shipyard build half and the other 22 build half. I mean, you're well aware of that. 23 So our industrial base has a lot of excess 24 capacity in some areas, both in industry and in the 25 government side. And I think that drives a lot of the</p>
<p style="text-align: right;">Page 55</p> <p>1 presidential helicopter. We're going to see it again when 2 the next competition for the rescue helicopter comes about. 3 You're going to see a strong bid by the same guys that won 4 the presidential helicopter, and they have a very 5 competitive product. 6 So I think there are some things that you can do, 7 like take the tanker as an example, you could have said 8 something like, we'll try to buy the airplane on a 9 commercial basis, but the refueling modification we're going 10 to compete out among the U.S. primes. You could probably 11 there's probably four primes that could compete for that or 12 more. So there was probably a way to structure kind of an 13 innovative competition for the tanker other than the way 14 selected to do it. 15 It will be interesting to see when the AOA is 16 finished what they recommend and how the competition comes 17 out, but there's lot of different ways to get competition. 18 But I would say if you structure an industry and you 19 structure an acquisition system that doesn't have 20 competition, you're in for trouble. One of the most 21 important elements is a competitive environment. 22 And let me just say that there is a lot of efforts 23 underway to centralize and limit contracting in areas of 24 engineering support and things like that, where you would 25 define the number of contractors eligible to compete for</p>	<p style="text-align: right;">Page 57</p> <p>1 overhead costs we see in our systems. Now, if you wanted to 2 go into the industrial base a little deeper, you can look at 3 -- there's a lot of things we do especially in the -- I know 4 you all are probably looking at big acquisition, big A, but 5 now I'm talking about little A and our industrial base is 6 probably, I don't know, 30 or 40 items, which we procure in 7 the industrial base, which are single-source, and they're 8 overseas. And they're obviously critical items, because we 9 can't do acquisition without them for the industrial base. 10 We have a lot of unused, organic facilities around the 11 country, underutilized organic facilities. 12 Why wouldn't we develop a second source for some 13 of those single sources that are overseas, and do a cost 14 plus award fee contract, and let small business do that on 15 an organic facility? So there are lots of things we could 16 do which we're not doing to shore up the industrial base. 17 That's one thought. 18 CHAIRMAN KADISH: Anybody else? 19 MR. HAWLEY: I would follow up on this industrial 20 base issue, Larry. You also mentioned that we tend to be 21 devolving to cost shoot-outs at the expense of best value, 22 which seems to me to be related, because when you have so 23 few competitors, in order to reserve competition up to the 24 point where you do source selection, you're kind of forced 25 to dumb down the requirements to the point where everybody</p>

Page 58

1 can stay in the game up until the last decision. I don't
 2 know whether the data will support that, but certainly
 3 that's one of the observations that some people have made.
 4 Again, any thoughts on that and how we might deal
 5 with that problem?
 6 MR. FARRELL: It depends on what part of the
 7 industry you're talking about. For big airplanes, you know,
 8 there is really one producer right now in this country, and
 9 it's Boeing. For bombers, you might make the argument that
 10 there's really one guy that's doing bombers right now. For
 11 fighters we've got two. But when you get down into other
 12 parts of the industrial base, like software support,
 13 engineering services, you've got lots of competition.
 14 And the problem there is that people, because
 15 there are so many offerors out there, you try to limit the
 16 number of people. I'm bidding out one of these omnibus
 17 contracts and you're going to award it to, let's say, 600
 18 people, and then compete out the task. What about those
 19 other 1,000 or 2,000 companies that are standing around that
 20 could do that that are not on the list?
 21 So in some cases we limit competition. In other
 22 cases we don't have enough offerors to do competition. But
 23 I think it's a real problem. I don't have a solution for
 24 that. What if we needed a new tank? What would we do? I
 25 suppose you could get United Defense into the tank-building

Page 59

1 business to compete with GD, but right now they're building
 2 the combat vehicles and future combat system. But really
 3 there's just one tank builder. You just have a few people
 4 that build ships now and just a few people that build big
 5 airplanes, so we don't have very good competition there. I
 6 think it's a real problem. I don't know the solution to it.
 7 And you don't see a real move within the
 8 industrial players themselves to address it. They're trying
 9 to compete for existing contracts to hold on to the
 10 contracts they have, to become more efficient, to grow the
 11 business. And right now they're all growing because there's
 12 a lot of money in defense.
 13 But there's going to come a downturn here, and you
 14 may be seeing the budgets start to turn over. It will be
 15 interesting to see the President's 2007 budget. I think
 16 that's going to tell a lot about where the whole industry is
 17 going. It seemed to be a turndown in 2006. I could detect
 18 less of an increase from the previous year, and in some
 19 cases the actual accounts were lower. So the 2007 budget is
 20 going to be very interesting.
 21 MR. CAPPUCCIO: Larry, when you talk about
 22 competition among the big players in terms of the
 23 manufacturers of fighters, you can structure competitions
 24 that are not necessarily cost driven, but best-value driven.
 25 You can establish a target of cost, and say what might you

Page 60

1 do. So one of the issue, and I would like your opinion on
 2 this, is how we acquire the strategy for acquisition. Right
 3 now it's one process fits all. What do you think of
 4 adapting the strategy of competition, which right now we
 5 think is really kind of lacking?
 6 Similar to that is the drive on the part of the
 7 government to always present -- to always dumb down the
 8 requirements so that they always bring two people to the
 9 final line. So there's two aspects to the problem. I'd be
 10 interested in your view about the strategy of structuring
 11 competition. And to what extent does that need to be
 12 revisited in light of the industrial base?
 13 MR. FARRELL: Well, you're talking about best
 14 value, right?
 15 MR. CAPPUCCIO: Right.
 16 MR. FARRELL: When it comes to best value, it's
 17 been my limited experience that you need a lot of
 18 discussions with industry before you finalize your cut and
 19 your contract vehicle. And it's not just through the RFP
 20 and RFI process, but it's actually face-to-face discussions.
 21 And I don't think we probably do enough of that.
 22 But the problem with face-to-face discussions is
 23 it takes a lot of time to do it and a lot of effort on the
 24 part of government and industry, and time doesn't seem to be
 25 something we have a lot of right now. Everybody seems to be

Page 61

1 busy. But I think that's the only you can do a best value
 2 is to have face-to-face discussions, because it's
 3 impossible, I think, to put in your thoughts and your vision
 4 for your best value on a piece of paper that everybody will
 5 understand the same way. So you've got to be able to have
 6 Q's and A's in face to face, and all the industry has to be
 7 in that room.
 8 Does that make some sense?
 9 MR. CAPPUCCIO: Yes.
 10 CHAIRMAN KADISH: Anybody else?
 11 MR. KOZLOWSKI: This is sort of a global strategy
 12 question that probably goes beyond our charter, but I want
 13 to ask you for input anyway. And the IA in the past has had
 14 some national symposiums and what-not that addressed long
 15 term strategy, where is the country going, fairly global
 16 perspectives. I don't even know if you do that the last few
 17 years.
 18 But put this in context. We have a dwindling
 19 science and technology base in this country. I have a
 20 premise, and I think most people would agree, that it was
 21 our aggressive pursuit of science and technology which put
 22 this country where it is today. And if we don't maintain
 23 some degree of science and technology leadership, someone
 24 going to catch up and eat our lunch, either deliberately or
 25 otherwise. You know, you face societal type issues in terms

Page 62

1 of the long term. We don't have the people. I don't know
 2 about the spending. I will leave that for another day.
 3 What can NDIA do to assemble the industry and let
 4 them address in open forum what should they be doing to
 5 foster their own future, rather than waiting for DOD or
 6 somebody else to come along and bail them out? What can
 7 they do to foster competition? What can they do to foster
 8 science and technology innovation? I love competition for
 9 pricing, but I also love competition for innovation, ideas.
 10 That is what drives a lot of our technology revolution
 11 today.
 12 And when you get down to minimal sources, you just
 13 don't feed that engineering and scientist ego and
 14 intellectual drive. But it seems to me the industry could
 15 do a lot more. One example would be to sort of segregate or
 16 separate the design team, and maybe even have competitive
 17 design teams within their own organizational structure.
 18 Competition is healthy. You can create it inside
 19 the corporation or you can create it between corporations ad
 20 infinitum. Well, you don't have the answer to this, but I
 21 would just invite the industry associations to go out and
 22 start tackling some of this, just get the discussion
 23 started, because I'm quite frankly worried about where the
 24 country will be from an S&T basis 10 or 15 years from now
 25 MR. FARRELL: Those are good points. We need to

Page 63

1 keep in mind that the money for industry to do this comes
 2 from government ultimately. And so industry does do its own
 3 R&D, we know that. And it's allowable cost, probably not
 4 enough of that, but you raise some good points.
 5 Let's just talk about that right now. Even though
 6 there's the 6.1, 6.2, and 6.3 moneys are probably higher
 7 than they've ever been right now, in absolutely terms I know
 8 the Air Force has got about \$1 billion more than when I was
 9 a programmer in æ88. And I would suspect that maybe in the
 10 Army it's probably the same. But the 6.1 portion of that is
 11 smaller, so a lot of the money in the R&D accounts are going
 12 for development, they're not going for science. And so your
 13 point is well taken.
 14 I think it is something the country needs to step
 15 up to. It is not the first time I've heard that point. So
 16 the scientific research needs to be pumped up, and I'm going
 17 to take that point home with me and work on it. When it
 18 comes to technology, your other point is well taken too,
 19 because our engine combat is based on three things. Number
 20 one is the quality of the people we bring into the service.
 21 Number two is the training we provide, and number three is
 22 the systems we've got. So technology obviously drives the
 23 third piece and part of the second piece too, so that is
 24 well taken.
 25 One thing you didn't mention that this country is

Page 64

1 not doing a very good of is the supporting of the
 2 manufacturing industrial base. We have the Mantech program
 3 in the services. These things are almost never funded.
 4 They do have a small amount of funding, but there's no real
 5 coordinated manufacturing advocate in this government. And
 6 we're really in trouble, like we go into General Motors or
 7 Chrysler or any of those car manufacturers, you probably see
 8 a lot of Japanese and German machines on the floor. There's
 9 very few places you go you see them using all U.S. machines.
 10 One of the exceptions is the rocket plant that Boeing has
 11 down in Decatur, Alabama. There's a lot of Cincinnati
 12 machines, a lot of new Cincinnati machines in that plant.
 13 It surprised me to see that Cincinnati had the best machine
 14 for whatever they're doing there at the time.
 15 But when it comes to advanced machines, we don't
 16 lead the world anymore. So I would say NDIA has looked at
 17 this, and we're going to stand up a manufacturing division
 18 that we're working on right now. We're working with people
 19 up in Pittsburgh, which is kind of a hotbed of manufacturing
 20 expertise, to help us do that. I happen to be on the board
 21 of a thing called the National Center for Defense
 22 Machining Manufacturing, which is a not-for-profit outfit
 23 that's doing this. But I believe we need to put a lot more
 24 money into advanced machine technology, not doing the
 25 manufacturing, just the basic manufacturing that anybody

Page 65

1 could do in the world. But to do manufacturing and to
 2 develop machines that nobody else has, that is where we need
 3 to be putting our money, and we're not doing it.
 4 So your points are well taken, but that is one of
 5 the things we're working on at NDIA is the manufacturing.
 6 CHAIRMAN KADISH: Anybody else? Well, anybody from
 7 the floor?
 8 (No response.)
 9 CHAIRMAN KADISH: Larry, I know we put you on the
 10 spot a couple of times, mostly during the entire
 11 presentation. Your perspective especially, your personal
 12 views, as well as the association views, are very important
 13 to us. And so we will take these back, and if you don't
 14 mind I think we might ask you some other questions that we
 15 come up with to kind of respond other than just through a
 16 dialogue and just see where we can go. But it is an
 17 important point of view, and I want to thank you for coming
 18 and sharing with us today.
 19 MR. FARRELL: A lot of the questions you asked me I
 20 think you ought to be to -- you've got two industrial
 21 members this afternoon. I think those would be good
 22 questions to ask them
 23 CHAIRMAN KADISH: It will be a very interesting
 24 session. Okay, we are ahead of schedule, so we stay that
 25 way for now and we'll reconvene at 1.00. Thank you very

<p style="text-align: right;">Page 66</p> <p>1 much. 2 (Lunch recess.) 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 68</p> <p>1 slides that just show L-3 and just lay the groundwork, a 2 little bit of where we have particular interest, which in 3 some cases is considered to be self-serving obviously. But 4 I do believe it affects all of, particularly the vendor 5 base, and the same problems as we see it. 6 Basically, L-3 was established in 1997 after 7 Lockheed and Loral merged their companies. I was with 8 Loral, of course, as president, and we went to Lockheed and 9 worked with Norm Augustine to set up Loral into Lockheed 10 integrated. Once that was done I asked Norm if we could 11 break out the products area that we had sold to Lockheed, 12 which didn't really fit because they were black box 13 companies that didn't have a great deal of emphasis within 14 Lockheed. 15 So Norm agreed why not try it, and we decided we 16 would break out of that 10 products that Loral had sold to 17 Lockheed as a part of that merger. And the only request 18 Norm had is he wanted half the company and we said we'd give 19 him a third, and so he was our partner in this. And we 20 broke out 10 divisions that were tied to products, the 21 purpose being that the division we had at that time was that 22 because of the massive consolidation of the so-called major 23 companies that occurred in a 10-year period, there was 24 massive consolidation of the system. The vendor base was 25 pretty well fragmented with no consolidation. And because</p>
<p style="text-align: right;">Page 67</p> <p>1 AFTERNOON SESSION 2 (1:00 p.m.) 3 CHAIRMAN KADISH: I would like to call the meeting 4 to order. It's 1:00. And we have the pleasure of having 5 Mr. Frank Lanza from L-3 Communications to come and speak to 6 us about the acquisition issues in the Department and his 7 perspective of that. And we have been looking forward to 8 hearing from you, Frank. I don't think he needs much of an 9 introduction. He's been around the industry a long time and 10 is a big contributor to the company he's built, L-3, that's 11 why we're interested in talking to him. 12 And let me just kind of set the framework. This 13 is an open hearing. Hearing is the wrong word. It's more 14 an open meeting in terms of information gathering. And the 15 Secretary has asked us to do these types of things to make 16 sure that people in the public and in general understand 17 what we're trying to do, as well as try to understand the 18 problems that we're facing. So it's on the record and we 19 look forward to your comments. 20 MR. PATTERSON: It will be a couple of minutes 21 until we get the machine up. If you would like to have an 22 overture. 23 CHAIRMAN KADISH: We're trying to get the slides up 24 on the machine. 25 MR. LANZA: I'm just going to cover a few of the</p>	<p style="text-align: right;">Page 69</p> <p>1 of the DOD meltdown in the 1995 time frame with the budget, 2 it was very difficult for vendor-type suppliers, emerging 3 suppliers, to survive. You couldn't go public because 4 nobody gave a damn about an IPO of a \$50 million company in 5 the defense industry. Some of the people were getting to 6 the age where you wanted to get some kind of liquidation for 7 themselves. 8 And we had no place to go. So we said, why don't 9 we, instead of consolidating, like the things that happened 10 with Loral and RCA and TI and Ford Aerospace, you can go on 11 and on with the consolidation, let's consolidate the vendor 12 base and let's form a company that can be a provider to the 13 emerging suppliers of products and try to become the biggest 14 one so that we had the resources for the small companies who 15 had no R&D to be able to spend the R&D money to build 16 products. 17 And so we said let's do that, and so we started L- 18 3 and we went public about a year later. And since that 19 time we've made about 70-plus acquisitions, mainly in 20 product areas, and went public a year later, as I said. And 21 we've grown up until now. A company that started out at 22 \$500 million that ended up this year about \$8-1/2, \$9 23 billion. And with the tightened acquisition next year we'll 24 be about \$12 billion, and so we became a mezzanine company 25 really focused on -- 70 percent of what we do is we build</p>

18 (Pages 66 to 69)

<p style="text-align: right;">Page 70</p> <p>1 boxes, and we made it in the mezzanine area once TRW left 2 that group as the potential prime contractor, not for 3 building a platform necessarily, but TRW was a major prime 4 contractor in many C3I areas. If you look at the mezzanine 5 areas, there's not many left that are capable of that. If 6 you look at the niche area, whether it's Rockwell or Harris 7 or ITT, L-3, there's a lot of IT companies, so there's not a 8 lot in the mezzanine area.</p> <p>9 The problem that we have seen over the last three 10 or four years, and we've kind of been on a campaign, is that 11 because of the prime contractors obviously integrating so 12 highly, and several of them have become vertically 13 integrated because of the acquisitions, it was a troubling 14 thing at the start, and what aggregated them even more is 15 when the government decided to go to the TPSR concept, and 16 the government decided to call that LSI. That presented a 17 big problem, because as things developed over the last few 18 years, the so-called prime contractors that will get a major 19 LSI program were vertically integrated. And many of the 20 things that used to be competed in the vendor merchant 21 market were no longer competed.</p> <p>22 And the problem wasn't that you were afraid to 23 compete against them. The problem was that they weren't 24 competed. So we faced two problems, one of them they were 25 competed, and in many cases the night before the decision</p>	<p style="text-align: right;">Page 72</p> <p>1 had to demonstrate a make-or-buy policy to DCAA on every 2 damn contract we had, and they looked at everything and they 3 audited it, and if we did something in-house we had to 4 really show them that there was a competitive environment 5 that we could win. That's all disappeared. Nobody even 6 mentions that in prime relationships any longer.</p> <p>7 So we proposed that one solution to that was that 8 they put in the RFP the requirement for the prime or the LSI 9 in this case to have a make-or-buy policy, and demonstrate 10 to the government that they would fairly compete and put 11 firewalls up on major subsystems where there is a vendor 12 base. If there's no vendor base and something is very 13 proprietary to a prime, and there are cases like that, fine, 14 but that they do compete it, and that the government have 15 oversight, and that oversight be embedded in the POs, where 16 to date they have not cared about it.</p> <p>17 We've talked to a lot of POs, and the comments 18 that we get back most from everybody over the last couple of 19 years is, hey, we gave the contract to this prime, he's got 20 responsibility, we can't interfere. My answer to them is, 21 what are you talking about? It's a cost-reimbursable 22 contract. Are you telling me that you can't work with the 23 primes and tell them what to do when you're paying them all 24 the money. It's not a fixed-price contract. 25 I said, so what's this? You don't have any -- I</p>
<p style="text-align: right;">Page 71</p> <p>1 was made to do it in-house at the competition. And I've got 2 numerous examples of that. Or it just didn't come out 3 through competition. So to me that presented a big problem 4 self-serving to the vendor base and to L-3, but I think an 5 equal problem to the military and DOD in that they to me 6 would not benefit from best value to the government, not 7 necessarily on price, but recognizing that in my opinion, 8 great products come out of the vendor base and the 9 entrepreneurs who invented many things for the last 40 years 10 that never came out of necessarily large companies.</p> <p>11 I mean, you walk around with a PDA or a Blackberry 12 or a cell phone or a GPS, these didn't come out of large -- 13 they came out of entrepreneurial scientists who developed 14 companies and did great things. I think that's been the 15 case and I think that if continues the way it is, there's 16 not going to be a vendor base, as the government goes more 17 and more to LSI, and we allow for the vertically integrated 18 primes, not to allow that important subsystems mainly to be 19 competed.</p> <p>20 So we worked out with Secretary Wynn, where about 21 a year ago we issued a memo sponsored by Suzanne Patrick to 22 the POs, saying that they must adhere to a policy that there 23 be fair and open competition when they are a prime 24 contractor. And I don't think that's anything new, because 25 for 25 years, in the old days, we were a prime at Loral, we</p>	<p style="text-align: right;">Page 73</p> <p>1 got that at very high levels by the way, a the acquisition 2 part of the services. So his memo was done in good faith, 3 for Secretary Wynn was acting, and maybe people didn't pay 4 too much attention to what he did, but he did try to impose 5 upon it, this is now going on maybe 8 or 9 months where 6 we've seen nothing happening, number one, and number two, 7 it's gotten worse.</p> <p>8 So I have to be complimentary to the Army because 9 in FCS they did impose that in the RFP in the contracts 10 where Boeing and ICIC had to compete all the major systems. 11 And I think as far as I know the dates were there. But if 12 you look at major platforms that are on the street now, and 13 whether it's MMA or ARH or DD(X) or LCS or F-22 or JSF, 14 there's no control over monitoring of that. And a lot of 15 the things that one would have competed in the vendor base 16 are no longer competed, and the government and the military 17 do not seem to have any oversight in it. And I've got to 18 tell you, everybody we talked to says, you're right, even at 19 the military level. But nobody does anything about it.</p> <p>20 We met prior to Wynn with people like Samper of 21 the Air Force and Bolton, the Army Secretary, and they all 22 agreed with what we said. In fact, Samper put out a special 23 memo in regard to that to the PEO. Secretary Bolton refused 24 to do that for some reason, I don't know why. And the Navy 25 stood down also. But really the problem should come</p>

Page 74

1 resident into the POs and the program managers should have
 2 that responsibility. And just like I have to fill out a
 3 blank whether I'm compliance, anti-corrupt, we have many
 4 things on us that we have to comply with past performance,
 5 this is just another block that says you have to comply with
 6 this and the DOD is going to monitor it, and by the way, if
 7 you screw it up, you're not going to get contracts in the
 8 future, just like past performance is supposed to be a
 9 measure of that.

10 I don't think it takes a bureaucracy to do this.
 11 And number two, I don't think it should be congressionally
 12 delegated. I don't think this is something that should be
 13 legislated by Congress. I think it is in DOD, and we have
 14 stayed away from Congress entirely, which I think is wrong.
 15 So if you saw the slides --

16 CHAIRMAN KADISH: They are up.
 17 MR. LANZA: Can I just go through a couple of them?
 18 I will skip through. That's what shows what's happened the
 19 last 15 years. We have this consolidation of what I kindly
 20 call the five gorillas, the mezzanine group of companies.
 21 There are a whole bunch of companies that are vendor-based.
 22 That's consolidation of brand name companies that all of you
 23 recognize that have disappeared off the face of the earth
 24 that all used to be qualified to be prime contractors, and
 25 the government treated them as prime, and of course there

Page 75

1 are probably too many of them. But now we're down to five
 2 here and three over in Europe.

3 CHAIRMAN KADISH: Can anybody flip the charts?
 4 MR. LANZA: There we go. Interesting, after Loral
 5 was merged, which was a big deal in those days, even the
 6 CEO, Norm Augustine, who all of you know, said that key
 7 products were shut out, second and third tier suppliers who
 8 would tend to unfairly favor the largest suppliers with the
 9 broadest component and technology base. So here's the CEO
 10 of a major corporation, and because of that merger with
 11 Loral and DOD, and DOJ's concerned about a franchise, Norm
 12 made this and articulated this. And when I went to Lockheed
 13 to run the electronics, we set up a platform integration
 14 group totally separated from the products group, so you had
 15 electronics group of \$9 billion.

16 We set up an independent sector within Lockheed
 17 that would not have anything to do with the products group
 18 so they could be arm's length and be able to compete as a
 19 platform integrator. So this goes back to Norm Augustine's
 20 day, was a pretty competent industry in those days.

21 The problem, as we talked about, is that we have
 22 tried to be a consolidator, and we still continue to do that
 23 as a vendor base. We provide a lot of products, but the 10
 24 years for this bundling of TSPRs in LSI has caused limited
 25 flow-down below the primes. And if you're below the

Page 76

1 mezzanine, you get to the third tier, forget about it.
 2 There is no R&D flow-down and products and subsidies are
 3 just not competed due to LSI and vertical integration.

4 What we're saying is, what we think we need, we're
 5 recommending, is R&D flow-down has to be continued to the
 6 vendor base, vertical integration used to eliminate product
 7 base further amplified this condition. What do I mean
 8 there? We compete five companies or so, and you've got two,
 9 and if you don't like that, they're trying to make a joint
 10 venture, and you've got one. That is what has happened to
 11 us the last five years. Prime contractors require -- can
 12 you go back -- a large turnkey program with primes are
 13 essential for vertical integration embedded in the primes to
 14 destroy the vendor base, et cetera.

15 Here's what's important. Primes have the right to
 16 compete on substantive products within the level playing
 17 field. And that's not the issue. If any one of the primes
 18 have a product, whether it's a display of a sonar or a nav
 19 system, he should have the right to compete on his platform
 20 All I'm saying is if he does, there has to be a firewall up
 21 and the government has to have a recipe in my opinion to
 22 make sure that's done and it is put out. That's the only
 23 thing we're saying.

24 Secretary Wynn, I mentioned, did say this, but to
 25 date it's been pretty well ignored. Consequences. The

Page 77

1 vendor base, I think, is in jeopardy, platform superiority,
 2 creative product innovation I think will go commercial. I
 3 mean, this is kind of like rhetoric, but there's a lot of
 4 things that go wrong if we destroy the vendor base in the
 5 U.S. in the next 5 or 10 years. I think the DOD will be in
 6 deep trouble in my opinion.

7 Thoughts for consideration by the committee are to
 8 insert make-or-buy language in the request for proposal,
 9 make or buy a discrete DAB item. And the PMs need to
 10 actively monitor the prime to maintain the right to exercise
 11 disapproval of decisions to make or buy and improve the
 12 exceptions of the formal program make or buy. I don't think
 13 that it's asking a lot. I don't think it is asking
 14 bureaucracy to be set up within OSD or the military to
 15 monitor these things.

16 This is what was said in Secretary Wynn's letter:
 17 When developing acquisition strategies, program managers and
 18 contracting officers shall establish insight to enter a
 19 prime contract (inaudible) to deliver the required system
 20 capability and foster these competition. We wrote words at
 21 that time a year ago that you could summarize as follows:
 22 RFPs should require prime to establish such. Second, the
 23 DAB should review make-or-buy, and third, after award, the
 24 program office needs to actively monitor. So these three
 25 simple things were kind of our recommendation within DOD to

Page 78

1 form as the requisite to go out for major programs.
 2 My opinion is, if it's done after the contract is
 3 awarded, the primes will tell you to stuff it, it's none of
 4 your business. If we're bidding on a contract that says
 5 it's got to be a requirement, you will get the attention of
 6 every CEO, because once you lose a contract to a company
 7 because you weren't compliant, those guys won't be around
 8 very long. And you'll get the attention of guys like Bob
 9 Stevens, the Swansons, and because they will adhere to it,
 10 do not think it is a CEO problem.
 11 I know where it happens. I came out of the
 12 trenches. I ran a division, a growing division. I was
 13 responsible. To hell with everybody, I've got to grow the
 14 division. So most of it feeds up from below, that if you're
 15 a prime on an F-22, and I'm a training company within that
 16 company that needs business, I'm going to lobby to keep the
 17 training in house, and that's just human. I mean, it's just
 18 the way it is. And the only way to put discipline in it is
 19 to make it part of the process, to go ahead and compete Mr.
 20 Trainer. But you'd better be low cost and you'd better win.
 21 And I can cite cases on major programs from LCS to
 22 DD(X) to F-22 to JSF where majors of systems are not
 23 competed, and I'm not talking about little components, I'm
 24 talking about big dollar programs over a 10-year period that
 25 should normally go to the vendor, or at least be competed.

Page 79

1 That's really all I'm saying. This is not things that are
 2 down in the bowels.
 3 Now, some people will monitor, hey, look,
 4 government, you audited me, and when I built the system, 50
 5 percent of it is outsourced. Yeah, they outsourced a lot of
 6 things on command and control that are commercial. We did
 7 the same thing. We bought processors, we bought routers.
 8 Well, that's not -- that's the answer they give DOD, and DOD
 9 accepts it, right? Which is a bunch of baloney, because we
 10 all subcontract out as much cost as we can, and that's not
 11 what I'm talking about.
 12 But when there's a major subsystem, whether it's a
 13 command system or a fire control system or navigation
 14 system, an EW, those are what I'm talking about, that I
 15 think you have a vendor base that has incredible capability.
 16 So lastly, here's a couple of things beyond my
 17 self-serving statements that I think are important.
 18 Oversight and execution of programs, responsibility, and
 19 accountability should be returned to the service. I think
 20 the service has been abdicated of its responsibility to be
 21 deeply involved. I think OSD is too much in control of
 22 programs. When there is an overrun, the only responsibility
 23 is held at the OSD level. You never hear about a Secretary
 24 of the service having a problem or the acquisition guy
 25 having a problem or even the PO. When it gets bad enough,

Page 80

1 they fire the PO, the program manager, and that's the
 2 answer.
 3 So, I think there's too much being put over to the
 4 OSD side. I think the POs spend half their time satisfying
 5 the political sense, and probably half their time in
 6 Washington justifying things instead of running the day-to-
 7 day operations of the program.
 8 Lines of authority and hands-on management must be
 9 clarified and implemented. That's what I mean by that. We
 10 run a company. If everybody was out selling politically and
 11 lobbying at L-3 or any company, nobody would be running the
 12 operations. The first priority in the company of the CLO is
 13 to run the operations, not to go win new business. Even
 14 that's separated from the military. And so I think those
 15 lines have to be clarified. More authority has to be put
 16 back into the military and to the user and to the war
 17 fighter, and more important, the responsibility of running
 18 the program.
 19 Even in the old days when the military and DOD
 20 used the research labs and development labs to monitor a
 21 program to see if it was technically on, and you get a PO.
 22 And we say we've got a pretty good mousetrap, would you guy
 23 take a look at it? And you go into the developing centers,
 24 whether it's Wright-Patterson or Pax River. The answer you
 25 get is, we can't help you, we're out of the loop, go see the

Page 81

1 PO. And I've got to tell you, I've heard that many, many
 2 times, where they say, it's just out of our hands. That's
 3 also the law, because the skill set to monitor programs we
 4 high technology. You needed that input once in a while.
 5 And finally, to get off the podium, there's a
 6 question in here, and I ignored everything but two questions
 7 in your thing. But it says, what's the single most
 8 important thing that is causing the major program problem
 9 with overruns? And I think LSI is bad, the way it is being
 10 conducted. I do not think having a prime integrator is bad
 11 at all. I'm just talking about the LSI authorities are
 12 beyond control.
 13 But the catch-22 that we created in 20 years is
 14 that we in industry complain to you we can't take
 15 development high-risk programs, fixed price. And you in
 16 turn said finally, you're right, we've got to make them cost
 17 reimbursable. Well, if you look at that, that's a catch-22,
 18 because once you do that, the discipline is eliminated in
 19 the buyer and in the seller and in the bid process, because
 20 if it's cost reimbursable, a lot of sloppy things happen.
 21 You want to change requirements if it's cost reimbursable.
 22 The military does it freely and industry does it freely, so
 23 it's a catch-22.
 24 So we created because of trying to solve a problem
 25 of not having fixed price R&D this terrible problem. Now,

Page 82

1 maybe there's a compromise on big programs, whether they're
 2 prime or LSI, where you have funding is risk reduction
 3 programs for millions of dollars to get the risk out of the
 4 program. And I'm talking about the large programs. Why
 5 can't you go to an FBI contract to start for that platform
 6 and any subsystem that was in that particular acquisition
 7 for risk reduction. And once you go through the ceiling on
 8 FBI, pro-rate it and say, guys, the next 20 percent overrun
 9 is going to cost you 20 cents on the dollar, the next 20
 10 percent is going to cost you 50 cents on the dollar, Mr.
 11 Prime, and finally you're going to get to a point where it's
 12 going to cost you dollar for dollar.

13 So what you're doing here is making the bid
 14 process disciplined, and the implementation of the program
 15 will be self-auditing, because for me the seller, I'm going
 16 to be very careful of making changes that cost money and are
 17 not required, and the user's going to be very careful in
 18 making changes also.

19 So you take a lot of the risk out of industry,
 20 because you're saying, bid it CPIF, for example. But when
 21 you get to zero profit, it's not going to be all your cost.
 22 You're going to keep sharing in the cost and pro-rate it 10
 23 percent, 20 percent for the next -- some formula that says
 24 you're going to put skin into it. And I'm talking about not
 25 advanced research, I'm not talking about high-risk

Page 83

1 development. I'm talking about where nowadays on any major
 2 programs, the military and DOD implements a risk reduction
 3 program, and they pay a lot of money for it and they have
 4 normally two or three people competing, which says you've
 5 gone through the risk reduction.

6 And then the response to the RFP, the segments of
 7 a major subsystem that weren't in that risk reduction, the
 8 government can say, prime, that can be cost reimbursable.
 9 And so if you're developing a new permanent magnet motor for
 10 the DD(X), that's very high risk. You can put in the
 11 contract that segment if it's going to be contracted to the
 12 prime as opposed to the government, can be cost reimbursable
 13 and monitored, because it's extremely high risk. If there's
 14 a magic weapons system in there that is high risk that has
 15 not gone to any risk reduction, you don't want to hurt
 16 anybody making them do that set price. It could be
 17 segmented if this subsystem can be cost reimbursable up to a
 18 certain point. When you have a PDR, for example, on that,
 19 or a demo, and then go fixed price, it doesn't have to be
 20 black and white.

21 And I think that will be the only way you're going
 22 to ever solve the massive problems we're having today in
 23 overruns, which in turn hurts the military and hurts the
 24 procurement and acquisition account, and it takes away from
 25 something else. And we've had a bad record the last 5, 6, 8

Page 84

1 years in major platforms that are overrun. Remember
 2 McNamara tried to do this back in the F-111 days and on
 3 Mark-2, and he was a complete failure both on the automotive
 4 side as well as the military side. We tried it. It doesn't
 5 work. And this nonsense of LSI and cost reimbursable and no
 6 responsibility or authority or oversight by the government I
 7 think has gotten us in trouble, and I think it's something
 8 that I think DOD should solve.

9 The other part of it in vertical integration is
 10 self-serving to L-3 because I sell product to the prime.
 11 I'm a merchant supplier. But I'm trying to say -- I'm not
 12 trying to stop them from competing. They should compete.
 13 Just have some oversight. That is all we're really saying
 14 in regard to that. And that's all I've got to say, General.
 15 Thank you for the opportunity to say it.

16 CHAIRMAN KADISH: That is why we invited you,
 17 Frank.

18 MR. LANZA: Thank you, sir.

19 CHAIRMAN KADISH: Any questions from the panel?

20 MR. CAPPUCCIO: Frank, you and I have done some
 21 work on JSF. One of the things that -- do you believe that
 22 the supplier base should have a hand in the criteria for
 23 making the bioword? And the reason I say that, remember
 24 when we went into competition on the training system? One
 25 of the criteria we had in that system was other extenuating

Page 85

1 circumstances, which actually swung the competition one way
 2 or the other.

3 One of our concerns is the language in the make-
 4 buy, the criteria -- the government should agree to the
 5 criteria by which those decisions are made. I would like
 6 your opinion on that. But if we leave it to the suppliers,
 7 we'll just find another way. We'll put a waiting factor on
 8 the internal company. Do you think the industry would step
 9 up, or the Department would step up to help come up with
 10 criteria, make-or-buy criteria, or is that a good idea?

11 MR. LANZA: I think you can make make-buy criteria
 12 easily, and I think the area of JSF training, for example,
 13 was a program that was truly never competed.

14 MR. CAPPUCCIO: You're absolutely right.

15 MR. LANZA: What was done was a survey of industry
 16 and then an announcement by the prime that they'd made a
 17 selection to do it in-house. That was not a competition,
 18 and there are a lot of things. I think you could make a
 19 criteria that is just easy. You have put down the
 20 requirements of what you want. It goes to the prime and
 21 that is what he's obligated to do, and you tell the prime to
 22 compete it like the government used to do. The prime has a
 23 good division that does it and he competes to it. And
 24 there's a firewall within the prime contractor that
 25 evaluates it. And on that evaluation should be the military

Page 86

1 or the PO to make sure that it really is a best value to the
 2 government, and the winner takes it.
 3 And the discussion that don't tell me what to do,
 4 I'm the prime and you've given me a contract, I think is
 5 ridiculous because the government's paying everything that
 6 is cost reimbursable, for example, and I don't think a prime
 7 should go back to the government and say, it was your fault,
 8 you made me pick this company. I think the company that
 9 wins should win on the merits of the case, both price and
 10 best value.
 11 But there just ought to be neutrality. I'm saying
 12 I think the COs of the major companies would have no
 13 exception to that. In my opinion, I don't think it's being
 14 driven at that level, and this is just my opinion. It
 15 certainly isn't at L-3. If you want to go look at where
 16 we're the prime contractor on Big Safari and places like the
 17 EP3 and areas, and you looked in those airplanes and see how
 18 much L-3 product was in there, you would see there was
 19 hardly any, because our division that does integration down
 20 in Waco, Greenville, and Lexington, which is about \$2
 21 billion of integration, they really have a firewall, and
 22 they really make the L-3's products divisions compete
 23 fairly.
 24 If you see what we did with Titan, I made a
 25 consent with the government, who was very worried we were

Page 87

1 going to take Titan's high-level services and have them
 2 reform our products group. They said, there's something
 3 wrong with that because they may be involved in the
 4 government and things that could be proprietary. And I
 5 said, that's not going to happen, and you will read, if you
 6 see the announcement today, we took all the products out of
 7 Titan, transferred it to L-3 management where we have
 8 product and established a new Titan, made up of four sectors
 9 we're putting to a new COO, who came from Titan by the way,
 10 reporting to me.
 11 So we have separated the Titan services completely
 12 from the product, and the divisions at L-3 that have to sell
 13 have to go sell. I mean, if they want to sell something, a
 14 SIGINT system, on Big Safari, for example, and they haven't
 15 been very successful, by the way, but they have to break,
 16 because they know that the government is paying them to be
 17 an honest broker.
 18 In my time, it was when you sign up to be an LSI -
 19 - I wish I was an LSI -- the government to me is delegating
 20 to you to be the government. I mean, they're kind of
 21 telling me, look, I want you to take my role and be the
 22 government, because I don't have the resources. I think
 23 you're obligated to do what I'm saying because DOD and the
 24 military is asking you to be the LSI. If you don't want to
 25 do that, don't bid the contract. That's what LSI means. It

Page 88

1 means the government is giving you 50-year responsibility
 2 for a program womb to tomb.
 3 So I think it can be done easily. Honestly, I
 4 think it can be done easily, and I think it would be to
 5 everybody's benefit. And when the prime wins, fine. That
 6 is not a problem. I don't have that problem at all.
 7 MR. CAPPuccio: Just on GSF, so you know, I ran the
 8 competition. We actually did not do a competition. For the
 9 record, we did a make-buy analysis. The make-buy analysis
 10 was not scrubbed by industry, and that is the criteria.
 11 This is how it happens. And that is really typical.
 12 MR. LANZA: Anyway, I think it is a hot button
 13 with me and myself and General Scasi from L-3 have been
 14 articulating this for three or four years. It has not been
 15 a big impact to L-3 to this time. But if you look at the
 16 LSI, the way it is going, three or four years from now, it
 17 would have a major impact on an L-3, because we are highly
 18 produce oriented. That is why it's important to me, and I
 19 think I represent hopefully other people that are vendor-
 20 based that have the same problem. But you'll find out as
 21 you talk to people.
 22 CHAIRMAN KADISH: Don, did you have something?
 23 MR. KOZLOWSKI: I actually had two questions, one
 24 of which I think you answered, and that was just to get you
 25 to reiterate again, you currently have the system you're

Page 89

1 recommending in place at your level. That is, you do a make
 2 or buy, and you have had to add competition. It used to be
 3 historically when you made a make or buy, and Frank talked
 4 about it, it was either in-house or it was out-house, and
 5 you did not mix. And people used to violently oppose any
 6 sort of mixing. They're just more fearful about getting a
 7 fair shake, and so it's a matter of how do you think the
 8 firewalls are.
 9 MR. LANZA: That's right.
 10 MR. KOZLOWSKI: That is an issue, but certainly I
 11 think in a dwindling industry we have to look at more
 12 aggressive options, and that's all well.
 13 The other question I had though was this business
 14 of going cost plus and having this fixed price incentive on
 15 others to put some discipline or some constraint both on the
 16 government and in industry. It's an interesting
 17 proposition, but how far would you go before the contractor
 18 would have to absorb 100 percent of the cost? Do you go
 19 from fixed-price incentives starting out? You don't get in
 20 trouble, you're doing great. How much growth percentage-
 21 wise would you tolerate before the contractor has to eat the
 22 bill?
 23 MR. LANZA: I'm not sure I would ever recommend you
 24 get to a point where he eats the whole thing, because my
 25 counter question to that is, how far do you have to go when

Page 90

1 DOD bellies up and terminates a program? I haven't seen
 2 them terminate anything because of massive breaking of
 3 things.
 4 So I think the answer is, how far is DOD willing
 5 to go before there's an overrun and they say enough is
 6 enough, I'm not going to tolerate this anymore. So I don't
 7 think I would ever put the burden on the contractor that he
 8 has got to pay dollar for dollar.
 9 But I think that when you start out with 10 or 15
 10 percent and end up with 50 percent, that is a big number.
 11 And I think that is an important part of it, and I also
 12 think you can compensate the prime contractor when it gets
 13 into production or fixed price, allow him a little more
 14 profit, give him another 100, 200 basis points of profit in
 15 the guidelines so that there is an incentive out there, if I
 16 perform I'm allowed to get more profit, and don't beat him
 17 to death that it's got to be 11.5 or 12 or 9.5, if you know
 18 what I mean. I'm not saying we don't make enough money or
 19 we don't get great cash flow. I'm not on that kick. The
 20 government business is the best in the world, but you can
 21 add a few if you look at the overrun of billions of dollars
 22 versus another 100 basis points. My God, it is really a
 23 good trade-off.
 24 There's ways you can compensate industry, but it's
 25 self-healing. We're all going to be disciplined at the top

Page 91

1 level of CEOs and below, that when I start putting money in
 2 it gets my attention. And I want to see what the hell's
 3 going on. I'm not going to allow there to be -- and we're
 4 talking billions of dollars of overrun -- I think it flows
 5 down to the vendor base. If I've got a product that has
 6 been through risk reduction or it's off the shelf, I should
 7 take a fixed price. If it's in R&D, that is state-of-the
 8 art, make it cost reimbursable for a period of time until I
 9 demonstrate something, and then terminate me if I don't
 10 demonstrate what you want fixed price, terminate me.
 11 But today's world, what happens is I wish I was in
 12 that position. Overrun is great for organic growth. It's
 13 great. What a vehicle. I mean, wow, I just call them, I
 14 get beat up, and I get a check written by DOD and they go to
 15 Congress, and Congress goes to Mississippi and they say we
 16 need that program or whatever the hell it is, and we become
 17 more politically oriented now with all the politicians who
 18 are experts in defense. I mean, you guys aren't experts
 19 anymore. Go see the politicians. They're going to tell you
 20 that if you don't buy one more airplane, we're going to lose
 21 the next war. It gets to be nonsense. That's not for me to
 22 say, right?
 23 (Laughter.)
 24 MR. LANZA: Anyway, I'll be in trouble very
 25 shortly.

Page 92

1 (Laughter.)
 2 CHAIRMAN KADISH: We all get in trouble once in a
 3 while. I take a little bit different line in terms of the
 4 accountability issue. There have been people who assert
 5 that the industry bears a lot of the problems for the
 6 overruns so they should be more accountable for the non-
 7 performance. Would you comment on the idea that industry
 8 bears a responsibility for the current situation we're in?
 9 And if not, why not?
 10 MR. LANZA: I have to tell you, it's not all the
 11 industry's fault. There are a lot of programs where there
 12 are indeed over-requirements. There indeed is crap within
 13 the contract. And I think it's a joint problem. I think
 14 that industry has more accountability and responsibility
 15 over it for execution and management, because there's no
 16 question that a lot of the overruns and problems we've had,
 17 when you just read the press and see how programs are being
 18 organized after the fact, because they were not performing.
 19 There must have been something on it in the first place.
 20 I've had that problem too with a program that gets
 21 a problem. We have to restructure because we've screwed up,
 22 we've put the wrong people on the wrong management. So
 23 think we're totally responsible for execution and
 24 management, which is certainly half the problem. But the
 25 military and DOD has some responsibility in defining the

Page 93

1 requirements, which in some cases are out of sight, things
 2 that are really high risk.
 3 It's very similar to a -- I don't want to pick on
 4 this, but they wanted an all-electric next boat. It was
 5 going to be permanent magnet, which is very big technology,
 6 and now last minute they have to change it and go to an
 7 induction motor after, what five years. There is an example
 8 of the Navy decided it was ready to go, put a permanent
 9 magnet in, this was going to be half the weight and
 10 efficiency, and people in the military and DOD labs, they
 11 know technology, they know what's risk. They knew that you
 12 weren't going to get to this thing in the year æ07 or æ08 to
 13 launch the first boat. And I think there are a lot of
 14 examples of that, that this is not being effective. I think
 15 industry has to show responsibility for execution and
 16 management because that is a significant thing that is going
 17 bad in the last 10 years.
 18 CHAIRMAN KADISH: In terms of the LSI, there's a
 19 reason why the government is doing more LSI. Can you
 20 comment on what your perception of the reason is?
 21 MR. LANZA: I think it's just resources, and my
 22 understanding -- there was a lot of engineering expertise.
 23 We had major force reductions, and I think it was just a way
 24 out to say we could outsource responsibility and select a
 25 system integrator. I'm not sure we meant it to be as it

Page 94

1 turned out. And I think the military, just like I need a
 2 system integrator when I have a prime contractor and I have
 3 many divisions that provide product into it, we picked a
 4 lead system, a lead company, at L-3 that is responsible for
 5 that program. I think you want him to pick a lead
 6 contractor to be the integrator and the responsibility, but
 7 I think he went way too far, and you allowed him to be the
 8 whole acquisition authority and buy everything.
 9 You could have done what you did and said, but I'm
 10 going to compete the radar system and the nav system and
 11 these things. You didn't have to tell the prime contractor,
 12 you've got everything in the training system by the way, and
 13 you told the LSI, and by the way you're going to do the
 14 spares, the maintainers, the logistics for the next 50
 15 years. I mean, you gave everything to it. And so I'm not
 16 sure you wanted to do that.
 17 But as it turned out, you gave the whole womb to
 18 tomb responsibility, and I think LSI is good for the
 19 military if it's done in the right connotation where you're
 20 picking an integrator to help you because he's got the
 21 resources, you're paying him for the resources to do that.
 22 But I think you've got to be his partner. But to
 23 date you've overshot, and I think you've taken a program
 24 management and project people and labs out of the equation
 25 where they have little or no oversight until the program

Page 95

1 gets in trouble. Then you form a red team and you pick
 2 somebody to go evaluate it and then come back and tell you
 3 give them \$2 billion more. And it's too late in my opinion.
 4 CHAIRMAN KADISH: Is there an alternative to the
 5 LSI that you see other than to enforce it differently? Is
 6 there something we ought to be thinking about in terms of
 7 restructuring our approach to these problems?
 8 MR. LANZA: Yes. I think you should take a look at
 9 LSI and take a look at whether you want to put everything
 10 under the LSI and not compete some of the major subsystems
 11 that you're responsible for independent of the LSI and give
 12 him the LSI an associate contract to help you monitor it.
 13 But you can use the LSI to help you compete it,
 14 but I think you ought to keep the responsibility for major
 15 elements to make a weapons system work. When you take a
 16 platform and divide an airplane or a ship or a tank into
 17 subsets, you can see there's 7 to 10 critical aspects of
 18 everything that I think you might want to go back and do
 19 everything that you did before, and compete those and say,
 20 prime contractor, these are going to be given to you.
 21 If you think the prime could tell you, well, don't
 22 tell me, don't criticize me if it doesn't work, fine, tell
 23 the prime to hell with you, don't come and ask for money
 24 when you're overrun. I mean, it's a two-way street, and I
 25 think you've got to balance the LSI to satisfy your needs

Page 96

1 for resources, which come out of industry, and oversight,
 2 and not walk away from it. That can be determined during
 3 the RFP process. It is just not that complex at all in my
 4 opinion.
 5 CHAIRMAN KADISH: Is there anything we should do in
 6 terms of the industrial base itself? You showed the
 7 consolidation, where we are today. There's some big
 8 implications of maintaining that industrial base activity
 9 with more offshore competitors, and all the licensing and
 10 ITAR issues associated with that. Is it time now to take a
 11 look at where the industry is, and see if there is anything
 12 that could be done to solve some of these problems?
 13 MR. LANZA: I think you have a major problem tied
 14 to, number one, offshore investment in the U.S. and how far
 15 you want it to go, how much of industry do you want to be
 16 owned offshore. I'll ask you, try to buy a company in
 17 France or Germany and see how far you get, just try. It's
 18 very difficult.
 19 We are putting danger in the ITAR problem that we
 20 just lost, and I'll just use this as an example, I'm not
 21 complaining, we just lost a major program overseas in U.K.
 22 on a major watchkeeper program, where the technical people
 23 selected us at cost, but they went to an Israeli solution,
 24 because they could go and sell it to second and third-world
 25 companies without U.S. involvement. And that process has

Page 97

1 gotten where they're saying we're not going to let the U.S.
 2 police us because what I was selling took me five months to
 3 get a license.
 4 With restrictions -- and I'm not saying it wasn't
 5 right to have the restrictions, don't misunderstand me --
 6 but to have restrictions on it, and if I were the customer
 7 in U.K., I might have said the same thing, why should I be
 8 bothered with them. I can buy one -- in this case it was
 9 from Israel - with no restrictions. They gave them all the
 10 IP. And I know where they're going to sell that UAV that
 11 they're using. It's not a U.S. UAV, nothing on it is U.S.
 12 They're going to sell it all over the world.
 13 Well, we're down to things that we can't sell, an
 14 IR uncooled sensor commercially, because they think it can
 15 be used by second and third-world countries to put in
 16 weapons. Well, they can go to France and buy it and go to
 17 other places. What I'm saying is I think it's gone too far
 18 in what is defined as protecting our technology. But if
 19 they want to put the industrial base in jeopardy, it is
 20 helping us selling internationally because our international
 21 business is shrinking dramatically rather than growing,
 22 dramatically. And a lot of it is because there are
 23 countries we can't sell it. But that's not the problem.
 24 But the licensing situation on things that we
 25 consider to be a commodity are all of a sudden becoming

Page 98

1 national things. We have one chip in commercial airplanes
 2 that we sell to Boeing. It's in commercial airplanes, that
 3 we now were reprimanded and forced to stop selling because
 4 it had a chip built in America that is used by everybody.
 5 And all of a sudden they considered it to be U.S.
 6 proprietary, too advanced, and we can't put it in commercial
 7 aviation, after selling it for 4 or 5 years. I'm talking
 8 about a chip.
 9 So I think there's a problem that we're
 10 overshooting, and then when where it is important we're
 11 forgetting about it. So we're giving technology away, in my
 12 opinion, where it is important, because there's a lot of
 13 political people that have a lot strength in major programs
 14 and a lot of congressional clout to get things done. But
 15 when you get down to the second or third level, it just gets
 16 disapproved by the bureaucracy.
 17 MR. KOZLOWSKI: Where are you running into the
 18 problem? DOD, Commerce, State, all of the above?
 19 MR. LANZA: It's every place. Some of it's DOD. A
 20 lot of it is State now. There's an argument between State
 21 and Commerce in regard to who has the right on these things.
 22 It's just gone too far. And when something is sold
 23 commercially that you can go to Radio Shack and buy or go
 24 over to the grocery store in Germany and buy it, what are we
 25 doing?

Page 99

1 This is just a program that's two weeks old.
 2 We've lost a half a dozen important programs just because
 3 they said we don't want any controls. And some of the
 4 controls are legitimate, don't misunderstand me. But it is
 5 a problem.
 6 So I think you've got to watch for an investment
 7 in the U.S. and see how far you want to go in consolidation
 8 of worldwide single procurement agency for all weapons
 9 system and the ITAR area. You've got to remember that.
 10 Everybody wants to buy America. We're the largest defense
 11 market in the world. So everybody's going to want to buy
 12 into America overseas, to buy into this marketplace.
 13 And I think the boat might have sailed, just like
 14 I think we over consolidated. I mean, I think Bill Perry,
 15 when he had the final supper for us, said, you're on your
 16 own. We're going to reduce the budget. I think he had good
 17 intentions, but I think he went overboard in consolidation
 18 of the major people capable of being prime contractors. It
 19 just went way too far.
 20 And I think we still have a health defense budget
 21 of \$150 billion in the investment account and \$20- or \$30
 22 billion out of the O&M account. So I don't think there's
 23 much room for other primes. There may not be room for
 24 multiple submarine and platform people. But what happened
 25 is you didn't consolidate just the platforms, you

Page 100

1 consolidated everything below it. So it wasn't just the
 2 people that are politically -- in the shipbuilding, for
 3 example, can protect having multiple suppliers no matter
 4 what DOD wants. They just have the political clout, and
 5 they say you're going to have two shipbuilders or two
 6 airplane builders, but when you get down to the level below
 7 that, nobody gives a darn, either politically or really in
 8 DOD at this time.
 9 So the consolidation was separated from the
 10 standpoint of the five top people because the political
 11 constituency protected their constituency, and said you're
 12 going to have two shipbuilders. That didn't occur below
 13 that, because there was no political constituency below
 14 those levels of the big platform people, and you're seeing
 15 that today.
 16 And I think we just over consolidated with
 17 companies that weren't platform integrators at all. They
 18 didn't build platforms, but they were really quality
 19 subsystem and prime contractors, and they're gone. And you
 20 can name 40 names. It's what made America great, and
 21 they're gone. They're just no longer available.
 22 CHAIRMAN KADISH: I would like to ask you one more
 23 question, more clarifying, about the idea of the services
 24 taking more responsibility for the acquisition process. The
 25 issue goes, one of the reasons why we went to the PEO

Page 101

1 process we have today in OSD was because of perceived
 2 problems back in '85 with Goldwater-Nichols, came about and
 3 put a very strong acquisition executive system in place to
 4 deal with that.
 5 Are you saying that approach ought to be abandoned
 6 and we kind of go back to the service primacy with the very
 7 weak OSD/PEO type structure? Or, I guess what I'm asking,
 8 do you have any specific recommendations on how that should
 9 be done?
 10 MR. LANZA: Yes. I think that PEO is a good idea
 11 and I think PEO should be barred from going to Washington
 12 and spending half his time with Congress. I think he should
 13 not be double-hatted or double-lined to OSD and to the
 14 services. And I think the lines of authority ought to be
 15 the PEO should be reporting to the acquisition czar and to
 16 the Secretary of the service. And they should be
 17 accountable for the problem. And when the program gets in
 18 trouble, I don't know how I never read about the Secretary
 19 of the service ever got reprimanded or in trouble, and he
 20 should be or ought to be a COO that is responsible for that,
 21 because all you hear about is Secretary Wynn or equivalent
 22 is justifying the overrun and responsibility, because the
 23 PEO is spending his time between both. So if you went to
 24 hand a PEO a situation, hold him accountable or have him
 25 report to the appropriate people within the military branch,

Page 102

1 and make sure the Secretary is hands on or his deputy, and
 2 responsible for that program, and measured for that program.
 3 And if it gets in trouble, he's the guy responsible for it.
 4 Right now, there is nobody responsible for a
 5 program that gets in trouble to be honest with you. And I
 6 think because all you have to do is look at the industry way
 7 it is done in most good companies in America. It is
 8 resident in the operating people of the company. And I
 9 think we've lost that in DOD from an administrative
 10 standpoint, because, like I say, a PEO spends half his time
 11 in Washington briefing people on his program and trying to
 12 save it and get it, yet his responsibility was to be a
 13 hands-on person who runs those programs who is accountable
 14 for it, and if it gets in trouble and he's not good enough,
 15 get rid of him and give him the authority to make sure the
 16 program comes in on a normal course of schedule and
 17 performance.
 18 But I'm not saying abandon the PEO at all. I
 19 think that structure is good. I just don't like the
 20 reporting of how it's been done and the dilution of the
 21 people he has to be responsible for.
 22 CHAIRMAN KADISH: Anybody else?
 23 MR. KOZLOWSKI: How would you address the role of
 24 the program manager in your organization? What do you
 25 expect of them in terms of achieving program success?

Page 103

1 MR. LANZA: He's got total accountability for P&L
 2 on the program and compliance to the contract, and he is the
 3 czar on the program and the organizations within our company
 4 work for him, and he speaks for me as division president.
 5 He is responsible to deliver that program to the customer
 6 within a reasonable cost, and when it gets in trouble, the
 7 buck doesn't get passed beyond him. And he's got a staff
 8 that monitors it financially. He's got a staff that
 9 monitors it from a technical standpoint. He's got the line
 10 organization that we assign to him under his direction, so
 11 the people actually end up working for him, even though
 12 there's oversight from their line managers who sit in on the
 13 reviews.
 14 MR. KOZLOWSKI: So you still use the project
 15 organization with the functional line reporting?
 16 MR. LANZA: You bet.
 17 MR. KOZLOWSKI: Is your program manager given total
 18 cognizance over the budget? Can he move moneys around in
 19 various things as long as he stays within his budget?
 20 MR. LANZA: He has total responsibility and
 21 authority to do that, except when he gets to a red program.
 22 When he gets to a red program we pause and we send in a SWAT
 23 team, not for audit, to find out what is going wrong, what
 24 help does he need, what resources. We don't fire a guy for
 25 making a mistake. We fire him for not being able to correct

Page 104

1 it. But if he gets a second letter, he's gone. I mean,
 2 he's allowed one letter.
 3 But we have a problem in our Camden division on a
 4 major program, for example, it's a great division, we sent
 5 25 people in there, technical people, not red teams and not
 6 audit teams, to work with them, find out the problem from
 7 other divisions. But you have plenty of resources in the
 8 government from various labs, but normally they come in on
 9 an audit function as opposed to let's go solve the problem.
 10 But the program manager has total responsibility
 11 for P&L and delivery and making trade-offs within the
 12 contract for the programs. And that gets down to a box
 13 level, by the way, when you're selling a product. There is
 14 a product manager that is responsible for that mousetrap.
 15 We review all the programs on the big programs on a monthly
 16 basis, and I get reports on a weekly basis, and all major
 17 programs I get a letter from every president. Remember
 18 we've got 76 divisions that are grouped into six COOs.
 19 The way L-3 is organized, which corporate America
 20 is starting to go to, I think, is that I don't believe in
 21 one COO. Why? Because if you have a COO who's responsible,
 22 how does he work with one COO who's got responsibility? You
 23 can't do it. You can't be a Bernie Ebbers and say, I didn't
 24 know, and get away with it. He's in jail.
 25 And so I've established a rule where we have six

Page 105

1 COOs and they run about \$1 billion or \$1-1/2 billion, and we
 2 have a meeting every Monday. And the ones that aren't
 3 there, they're on the telephone, conversation with the
 4 people, then we review that COO with the divisions coming in
 5 too. On the big divisions, the big ones every six weeks and
 6 on the smaller \$15 million ones, about every three months.
 7 So we stay hands on with the sector or group guys and with
 8 the division people, and they report weekly on programs in a
 9 two-page letter. And when there is a red program or a
 10 yellow starting to turn to red, for example, action starts
 11 immediately and resources are brought in to that division to
 12 see where the poor guy needs help and see if he is capable
 13 of managing it, but not to bring him in there to audit him,
 14 because that doesn't work.
 15 MR. KOZLOWSKI: Do you have any specific training
 16 that you put these program managers through?
 17 MR. LANZA: We have a training program within L-3.
 18 All of the divisions, it's on a CD or in the intercompany
 19 communication where they're trained for program management
 20 Only two years ago we started a special course and brought
 21 in some outsiders to go around all of our divisions and
 22 train program managers. But they're hard to come by too.
 23 What I'm trying to say is they're not easy people to hire,
 24 and that is why you've got to provide the oversight. The
 25 program manager doesn't have -- I don't abrogate my

Page 106

1 responsibility because I've got a program manager and say,
 2 well, it's his fault.
 3 Just like I don't think the Secretary of the Air
 4 Force or Navy should get away with abrogating that he had
 5 nothing to do with it. So you've got to provide the
 6 discipline to the program manager and find out where he
 7 needs help, right. You can't just say because he's a
 8 program manager, because some of these programs are very
 9 complex, right, and they're very difficult to do, and you
 10 expect problems. The key is, can he solve them?
 11 MR. KOZLOWSKI: I have one other sort of a generic
 12 sort of a question. Do you think in general whether L-3 or
 13 whether the industry as a whole is investing enough in
 14 manufacturing capability to achieve low-cost production? My
 15 concern is, where are we going with the manufacturing tech
 16 base in this country?
 17 MR. LANZA: I think on normal things you don't have
 18 to invest. We should invest -- you don't have to make big
 19 money in things that are normally done by a company. I
 20 think it's up to the company to provide the capital that
 21 does that.
 22 Now, having said that, I think there are many
 23 areas -- not many, but there are areas -- that are so highly
 24 technical and so much bought offshore, that is where you've
 25 got to make the investment. For example, DARPA invested

Page 107

1 hundreds of millions of dollars in LCDs to try to find a
 2 company in America that could build, and they finally just
 3 punted and said it didn't work, let me go do GPS or
 4 something else. I think that's wrong. I think managers is
 5 a great example. I think MEMS in this country for example
 6 is a technology that can benefit. There is only one MEMS
 7 company almost left in America called Honeywell.
 8 We've tried to put a group together so we can be
 9 an alternate, because they told me when I bought the company
 10 at DOD and Justice, that it was if I didn't commit to that,
 11 et cetera, et cetera, and sponsor it, I couldn't buy the
 12 division I was buying. So we went out and poured \$25
 13 million into it. I went out and found an independent
 14 foundry and bought equity into that foundry that can do
 15 MEMS. But I can get very little government money to help
 16 the technology, because DARPA says, hey, we had our shot
 17 we're finished with MEMS, end of conversation.
 18 So I think there's niches where your technology
 19 and manufacturing, you should put things in. They're going
 20 to be vital to our country over the next 10 years, and
 21 routine manufacturing, I think no. I think we get enough
 22 return on capital, we make enough profitability and for
 23 things that are normally should be manufactured, I think
 24 it's my responsibility to put the capital in, and we do. We
 25 don't ask the government for any money.

Page 108

1 CHAIRMAN KADISH: Anybody else from the larger
 2 audience?
 3 MR. LANZA: I think they went to sleep.
 4 CHAIRMAN KADISH: I don't think so. Well, Frank,
 5 as usual, pretty provocative, and I think it gives us some
 6 more information that we can use.
 7 MR. LANZA: I appreciate it.
 8 CHAIRMAN KADISH: Thank you for your time. We may
 9 be back to you with some specific questions.
 10 MR. LANZA: Any time, you're welcome. I appreciate
 11 the opportunity to be here. Thank you, sir.
 12 CHAIRMAN KADISH: We'll come back at 2:30.
 13 (Recess.)
 14 CHAIRMAN KADISH: Can I have everyone's attention,
 15 please? We're a little late in starting, but Mr. Mark
 16 Ronald is here, president and CEO of BAE Systems. Again, I
 17 think he needs very little introduction in terms of what he
 18 brings to the table here. And we're asking him not only as
 19 formal representative of BAE, but also an individual who's
 20 been in this business a long time, to help us get through
 21 our assessment and some of the recommendations that we might
 22 present.
 23 So rather than waste more time on the niceties of
 24 things, Mark, welcome, and thanks for your participation.
 25 Just a reminder to everyone, this is an open forum. So as

Page 109

1 we were just discussing, it will not prevent us from asking
 2 the tough questions.
 3 MR. RONALD: Thank you, Ron, very much, and the
 4 other distinguished panel members. I very much appreciate
 5 and our company appreciates the opportunity to share our
 6 views on defense acquisition. And just by way of
 7 introduction, for those not familiar with our company, we
 8 are the third largest defense and aerospace company in the
 9 world. Our U.S. operations, headquartered operations that I
 10 run, is about \$10 billion, and we believe we're the sixth
 11 largest supplier to the Department of Defense.
 12 And not only have we grown significantly by
 13 acquisition, but we're probably more proud of the fact that
 14 we've had better than double digit indigenous growth as well
 15 in each of the last several years, and enjoy, we believe,
 16 excellent relationships with the Department of Defense and
 17 our other principal customers. And even for BAE systems, a
 18 \$25 billion company headquartered in the U.K., of which
 19 we're a wholly-owned subsidiary, our largest customer is the
 20 Department of Defense. And so we take this opportunity
 21 extremely seriously and welcome it.
 22 In addition to my remarks today, I believe there
 23 are three or four of our program managers who will be
 24 presenting information to this panel. And we have tried to
 25 pick a variety of different programs, one in the more

Page 110

1 classified domain, Compass Call, one international program,
 2 as you're probably aware, we're selling the M777 lightweight
 3 to the Marine Corps. In the Army we're the prime
 4 contractor, albeit close to 90 percent of the work that is
 5 being done here in the States, but it was originally
 6 developed in the U.K., so it puts a different tilt. And
 7 then two programs from our recently acquired UDI, the M88
 8 and the Bradley Reset Program. And so you'll be hearing a
 9 bit more from people who, as I like to say, do the real work
 10 in our company.
 11 If you'll pardon me, let's see if this works, a
 12 little bit of stage-setting at the beginning. We do
 13 understand what you want. You want us to be more flexible.
 14 You want us to turn on a dime. And, of course, you want it
 15 smaller and cheaper. So these are from our recent research
 16 projects. The rest of the meeting we'll get down to
 17 seriousness, but I just couldn't resist.
 18 CHAIRMAN KADISH: Some people think that last
 19 picture is of the acquisition system.
 20 (Laughter.)
 21 MR. RONALD: Let me very quickly, because I think
 22 everybody understands the problems, we may have different
 23 views on what the systemic causes of the problems are, but
 24 they manifest themselves in these three principal ways: cost
 25 growth, schedule delays, and requirements that albeit many

Page 111

1 requirements are exceeded, it is not unusual that some key
 2 requirements are not fully met.
 3 And all of this has been amply summarized in
 4 various reports, other than to say at the bottom those of us
 5 particularly who work in the industry sometimes lose sight.
 6 When you take it as a whole, we do a pretty damn good job.
 7 Most of our equipment works. We make the best products in
 8 the world. We are very competitive in terms of technology
 9 and performance.
 10 And if I would maybe make a couple of quick
 11 comparisons, just by way of making the point, we make very
 12 complex, big things that cost multi-billion dollars
 13 frequently. And if you compare us with other big projects,
 14 I would point to the Denver airport, which was originally
 15 budgeted at \$1.7 billion and ended up costing 5 and was more
 16 than a year late, or the Big Dig in Boston, as you know, we
 17 have our many facilities around there, so we're painfully
 18 aware. That was originally budgeted at \$5.8 billion and
 19 cost 15, and it was supposed to be done about 7 years ago
 20 and is now scheduled to be done this year.
 21 And so this industry is not alone in terms of big
 22 complicated things and challenges in terms of performance.
 23 And we shouldn't lose sight of that when looking for
 24 solutions. Sometimes some of our colleagues think these
 25 solutions lie in the commercial sector. That's why I point

Page 112

1 to those commercial jobs as possible points of comparison.
 2 That said, the next six charts -- I'm sorry, just
 3 one more way of introduction -- and the problems, even
 4 though as I said we do a pretty darn good job, the problems
 5 that we face are getting more difficult. The challenges, in
 6 my view anyway, are more complex. The programs in our
 7 infinite wisdom, which frankly I doubt, is well-formed. We
 8 have fewer, yet larger, programs. So managing those from
 9 both sides from the government's perspective and the
 10 industry's perspective is clearly a much greater challenge.
 11 Also, as I'm sure Frank talked about, although
 12 he's complicit in this crime, there's been some
 13 consolidation in the supply base, so there have been larger
 14 yet more politically influential suppliers. And I'll come
 15 back to that theme in a moment. The requirements are less
 16 stable because of the world situation. We no longer face a
 17 nice stable, relatively predictable adversary, and it's
 18 constantly changing.
 19 And so the national security strategy ultimately
 20 has a profound impact on the defense strategy. And because
 21 of the pace of change and the duration of our programs, it
 22 adds a further element of complexity to this already
 23 difficult problem, in that of course we're about to maybe
 24 actually come to grips with the economic reality that we
 25 can't continue to spend at these high rates. So,

Page 113

1 personally, I believe we've seen the peak of the defense
 2 spending, and we've already got a big wedge in there, and it
 3 is unclear to me how we're going to work ourselves out of
 4 that problem.
 5 All of this means we need really talented people
 6 and good thought from this panel, and hopefully the ability
 7 to make this process yet better. So let's talk about six
 8 specific thoughts that I have that I would respectfully
 9 present to the panel. You're not going to see new or
 10 original thinking here. I'm not sure frankly that is
 11 needed, but even if it is, I have not been clever enough to
 12 come up with brand new ideas.
 13 However, I will put a twist on each of these if
 14 I'm right. And let's start with stabilized program, and
 15 I've ordered this purposely into these three bullets,
 16 leaving what everybody's panacea is, multi-years to the
 17 last, because ultimately that gets into the prerogative of
 18 the Congress and much more difficult to implement.
 19 But let me start with two others where I think
 20 government and industry can do a much better job. One
 21 starts with cost realism assessments at the beginning. It's
 22 a mixed bag. Some buying commands actually do quite a good
 23 job of independent cost analysis, force rigor, and make sure
 24 the budget and the awarded contract actually reflect the
 25 cost to do the job. But certainly that is not the case.

<p style="text-align: right;">Page 114</p> <p>1 And, again, the combination of these fewer, larger programs 2 makes us on the industry side quite anxious to win. And 3 we're constantly sharpening our pencil, moving to the higher 4 risk end of the spectrum. And, frankly, I think our friends 5 in government who have limited budget are complicit in that 6 crime. 7 So, I would also make the second observation that 8 the cost basis has to not only be realistic, but there has 9 to be a factor for risk. We in industry, when we bid a job, 10 and I'm sure our process is somewhat unique to BAE Systems, 11 but I'm sure it's a practice in most large firms, and 12 probably small as well, to actually try to quantify the risk 13 and the opportunities, not only during the program but at 14 the outset, because these are not necessarily point 15 solutions when you're bidding the job. It's a range 16 somewhat determined by probability. 17 And so there may be the most likely outcome of the 18 bid, but there's also, if one considers the things that 19 might go wrong, the costs could actually go up. And we try 20 to quantify those major outcomes, assign a probability, and 21 then assign a weighted cost to those. Similarly, we try to 22 quantify the opportunities and obviously challenge the 23 program manager to develop a plan to realize those 24 opportunities and to drive the costs down. I don't believe 25 the government is as rigorous in this area as industry is.</p>	<p style="text-align: right;">Page 116</p> <p>1 requirements, establish realistic and achievable 2 requirements. We have undefined requirements changes. I 3 think the environment in which we work, which I believe is 4 correct, a cost-plus environment I think is appropriate for 5 most major weapons systems, and award fees certainly keep 6 us on our toes and responsive to that, which our customers 7 want. 8 That said, it also causes us to want to do what 9 you ask us to do. And frequently you ask us to do more than 10 the minimum requirement to fulfill the contract, and the 11 costs ultimately come home to roost. So the environment, I 12 think, is conducive to scope creep, or as I sometimes like 13 to say, the scope creep is from the need to have the things 14 that maybe we should have been clever enough to think about 15 but didn't. So you have to have some of that. 16 And then we have scope jog, due to nice-to-have, 17 and again, a lot of people are putting that nice-to-have in 18 there, and I am an engineer and so I like to tinker and I 19 like the latest and the best and a lot of the rest of us do. 20 But it clearly is -- managing that process is clearly a 21 problem. I'll come to some of the solutions, but I think 22 that ultimately gets to the discipline of the people doing 23 the buying. 24 I do not believe actually that you can count on us 25 in industry to manage this process. We will give you what</p>
<p style="text-align: right;">Page 115</p> <p>1 They're not really seeking to know what those cost risk 2 should be, and management reserve is not adequately built in 3 to the outside of a challenging program. 4 So if I could drive that point home, I would 5 strongly advocate that there must be some account. 6 Otherwise, those overruns, as you well know, become the bill 7 payers. The next program is paying the bill for the last 8 program, causing further disruption in the funding cycle, 9 and we all know what that does, whether it costs four to one 10 or some other numbers. And some of the questions that we 11 previously asked, I'm not sure, it would vary with the 12 program, but clearly it doesn't save you money when you 13 disrupt a program and try to make it a bill payer. 14 And then lastly, to the extent there can be more 15 stable funding, and the Congress is willing to give more 16 discretion to the Department, so much the better. In Great 17 Britain, by the way, although there's great difficulty 18 launching a program, once it is launched, it's fully funded 19 for the duration of the program, and that does seem to work 20 better. There are clearly in that system other issues, some 21 of which actually are more intractable than the ones we 22 face, but nonetheless, that aspect is better managed in my 23 view. 24 Second, these are not necessarily in priority 25 order, because it depends on the program, to manage the</p>	<p style="text-align: right;">Page 117</p> <p>1 you ask for most of the time. I'm not necessarily proud of 2 that comment, but that's my view of the reality of the 3 situation. So I think if this one's going to be fixed, this 4 has to be fixed on the government side. 5 That said, again, there are some solutions in hand 6 designed to unit work cost, technology, developments, and we 7 discipline ourselves to at least complete that which we said 8 we were going to do, and in the next block we have that. 9 There's a lot of good history on that, even before the 10 phrase spiral development was coined. It works. I do 11 believe it saves money. 12 Unfortunately, as we see today with IEDs, and 13 there are many other examples, we can't always afford to 14 wait, and so we will inevitably have must-to-haves in the 15 middle of a program, and that is just the economic reality 16 of the difficult task at hand in protecting and making the 17 war fighter effective. 18 My favorite one is next, and there are a lot of 19 great people in government, and I have the utmost respect 20 for those who serve in government, and it's becoming 21 increasingly more challenging as I pointed out. That said, 22 I don't believe that we're making best use of the talent 23 that we have, and as a consequence I would recommend that in 24 some form we consolidate the acquisition core. I would 25 leave it to the panel and others to decide best, does that</p>

<p style="text-align: center;">Page 118</p> <p>1 mean just one simple one? I'm not sure, but even within the 2 services, as you know, there are a lot of buying commands. 3 When you couple with the fact that we're buying 4 these yet more complex things and few of them, it just 5 doesn't make good management sense to have our resources 6 spread so thinly. So you end up with maybe every 5 or 10 7 years a major weapons system being bought by one service, 8 and coupled with the fact that maybe the people don't even 9 stay that long, so we have lack of stability of leadership. 10 But we're certainly not getting the lessons learned across 11 the various people who are gaining this knowledge, because 12 they may not get to use that knowledge for quite a long 13 time. And although strides have been made, clearly we have 14 better training, the people in acquisition, the work being 15 done by the various management colleges, I commend the fact 16 that you permit industry to talk to these folks and 17 participate, I also think is great. 18 But ultimately you've got to take a rare talent 19 that you've got and use it more broadly. And that means 20 some form of consolidation, much the way industry is 21 consolidated frankly, and in most of the companies that have 22 consolidated, at least within common products or 23 capabilities, there is more cross-fertilization. So I would 24 suggest that that could help. 25 The second element of that is what I will call</p>	<p style="text-align: center;">Page 120</p> <p>1 where we had horrible overruns and significant difficulty on 2 major programs, where today our net change in programs for 3 all of last year, and most of our programs are fixed price, 4 although fortunately not all, but our net change was 5 positive. And we had very few surprises. 6 And I attribute a lot of it to good program 7 management, good program management training, and this 8 independent review at critical stages on the program. And I 9 think the talent certainly exists in the government to do 10 that, or from outside agencies. But you've got to give them 11 some teeth. Can I have the next slide, please? 12 Partner with industry. Again, I think you do this 13 well. I think draft RFPs are a great idea. Most agencies 14 are doing it. But I would suggest you could extend it one 15 step further, and that is to share the requirement itself 16 earlier, and particularly when it's still a problem or a 17 need, before it is an airplane or a ship that weighs 18 whatever tons or has so many guns and whatever capability 19 before even the critical performance parameters are possibly 20 established. 21 Earlier in the process I would share two things. 22 What is the need you're trying to fulfill? So we can have a 23 more constructive dialogue with you in hopefully a positive 24 environment, which I think generally exists. Also, share 25 the acquisition plan. How do you plan to procure this? I</p>
<p style="text-align: center;">Page 119</p> <p>1 here system engineering. Although there's a lot of talent 2 in the acquisition community, these complex systems have 3 some systemic issues. And capabilities, those who are 4 familiar with CMM, CMMI, there are maturity levels, there 5 are people who are quite knowledgeable and able to recognize 6 problems earlier in the process. You have some of them in 7 government, but they're highly dispersed. They're not 8 grouped together, they don't have real networks. In today's 9 information age I would submit you would be better off 10 having them in one place and available. Give them some 11 teeth such that in the bid process the RFP may be -- the 12 PDRs at various times, have them be approval. 13 We've done those within BEA Systems. It's 14 something we call phase review where we have independent 15 teams from outside of the business so they're not as wedded 16 to doing the best. And they've got maybe the benefit of 17 perspective, being able to see the forest for the trees, if 18 I can quote the old cliché. And they will come in and the 19 program can't proceed until their recommendations are 20 enacted. And it forces an extra level of discipline, which 21 we have found to really work well, and I would gladly make 22 any of that documentation available to the panel. It is 23 quite an interesting process, pretty well described. 24 And it works, which is one of the reasons that our 25 stock price has tripled in the last three years from a point</p>	<p style="text-align: center;">Page 121</p> <p>1 will come to that point again in a moment, because how you 2 procure is as important as what you procure and what you 3 budget. And I'm not sure enough consideration is given in 4 government to the various methodologies of procurement. You 5 have some that work really, really well, and some that at 6 best, like your LSI concepts, the score is still out. And 7 then we would have a dialogue, much the way we're having 8 today. 9 So the more you can partner, I know sometimes this 10 gets looked at possibly as the negative aspect of the 11 military industrial complex, but ultimately we are 12 inextricably linked in a partnership. And I believe most 13 people on both sides of that partnership recognize that, and 14 particularly in these days of war time, but I think almost 15 at all times we are like-minded in what we are ultimately 16 trying to achieve, and that is provide the best product at 17 the most affordable prices for the taxpayer, for the war 18 fighter, with a positive outcome. 19 Next slide please. Performance-based contracting. 20 It certainly doesn't apply to all types of bids, but we have 21 to remember the O&M budget, the support, and particularly in 22 these constrained budget times going forward we're still 23 likely to see very long lines for our equipment. And, of 24 course, the government, with the higher increased cost of 25 the war fighter, the more that you can move to the private</p>

Page 122

1 sector, the better. I don't think there's much debate on
 2 that. But the way that you are buying the services is still
 3 very much mixed. And I would strongly urge a much more
 4 rapid movement to performance-based contracting, that is,
 5 buying outcomes, be it reliability or so much by the hour as
 6 opposed to 10 people to maintain something, because we will
 7 clearly be incentivized to get the cost down.
 8 We do that. Most of the companies that you deal
 9 with work in the commercial sector as well. We're well
 10 equipped to do that. We make more money that way and say
 11 you more money that way. Again, it doesn't apply to all,
 12 but a big part of the budget is very uneven, and I see that
 13 may be there, but I see no evidence whatsoever, I'm sorry to
 14 say, that this is actually being pushed top down.
 15 So I would commend you, good idea, not mine.
 16 You're doing it. Do more of it. Could I have the next
 17 slide, please?
 18 Parallel concept studies followed by demos more
 19 frequently. And I will make this point. A couple of ways,
 20 be it 4-2-1, it's catchy because it's binary, if you have
 21 multiple contractors doing concept studies, you will both
 22 get more competition and get more innovative and better
 23 ideas. We saw that in littoral combat ship, I think we saw
 24 that on JSF. And by the way, the good ideas, and I will
 25 take the example of UAVs, aren't necessarily limited to the

Page 123

1 domain where you think they would come from. If you look at
 2 who is providing most of the UAVs that are being bought
 3 today, they're virtually all from non-aircraft companies,
 4 even Northrop Grumman, Global Hawk, as you know, came from
 5 Teledyne before they bought it, albeit it they have
 6 certainly perfected that and made that a very successful
 7 program. And so opening the aperture at the front end of a
 8 program I think is a good idea for everybody involved. Some
 9 might argue it would add time to the program.
 10 I think when we look at the difficulty in
 11 execution and time on programs, still in the long run it
 12 will shorten because it does affect both requirements creep
 13 that I touched on earlier, in that it forces reality. You
 14 have to demonstrate what can and can't be done. And again,
 15 you may get solutions that you haven't anticipated.
 16 The major benefit, however, is less reliance on
 17 written proposals. I do not believe the government any
 18 longer, and maybe never, had the capability of evaluating
 19 proposals. And if I could have the next slide.
 20 And I really do believe this, that proposals have
 21 become much like the Wizard of Oz, and I would ask you
 22 respectfully, go to the website of the proposal consultants
 23 and read what they're saying. They are actually at least
 24 claiming -- I don't know if they're valid enough, but a lot
 25 of people are using them -- they can help you win. And why

Page 124

1 the heck is that? How can a proposal consultant who knows
 2 nothing about an aircraft or a ship or an EEW system
 3 actually help you win? And isn't that a little scary? It
 4 is to me as a taxpayer and a patriot.
 5 So, again, if I might have the next slide, I know
 6 there are issues and some controversy around JSF, and maybe
 7 that it was over-specified. But I believe it did force some
 8 very good ideas together, and it forced reality at least
 9 into the technical feasibility of the program. And I
 10 ultimately believe it will be a very successful program. It
 11 does suffer from some requirements that possibly are still
 12 pushing too much beyond reality, and certainly we picked a
 13 price point or a cost point that did not adequately consider
 14 risk. And, again, shame on all of us for being complicit in
 15 all of that, but that should not cause us to not consider
 16 that a successful program and a model.
 17 I would point to the next chart, if you'll pardon
 18 me for pointing, some examples from the UDI company we just
 19 bought. One of the reasons we bought them is this slide.
 20 They have shown in a number of different instances the
 21 ability to put together some pretty sophisticated vehicles,
 22 all in less than a year, granted not full finished STD-type
 23 quality, but certainly to the point of being able to
 24 convince customers and themselves as to just what was
 25 feasible and what was not feasible.

Page 125

1 And I think the rest of industry is equally
 2 capable of doing quite a number of things in a relatively
 3 short period of time to kind of separate reality from
 4 fiction or get us away from this dependence on proposals,
 5 and also wean us a bit from this, what we would like to
 6 believe we can do into what we can actually achieve. So I
 7 would suggest that more concept demonstration programs
 8 before STD would be helpful.
 9 And the last slide, if I might summarize, and then
 10 hopefully allow some time for questions, I don't think I
 11 presented anything radically new here or different.
 12 Hopefully I put some emphasis on some of the things. I do
 13 believe that you need either, by consolidating some of the
 14 people or by policy and possibly by law, you need to deploy
 15 some of this much more broadly, much more consistently and
 16 with more rigor.
 17 Again, industry, when they decide they're going to
 18 do something and has a policy or a practice, it pretty much
 19 gets deployed at least quite broadly within that company. I
 20 think that's been the case for most big, successful
 21 companies. And yet the government is still, if anything,
 22 may be giving too much autonomy to the individual services
 23 and individual buying commands. I'm all for delegated
 24 authority, but some practices, I think, have to be managed
 25 from the top.

Page 126

1 Thank you again for this opportunity. I look
 2 forward to addressing any questions that anyone might have.
 3 CHAIRMAN KADISH: Thanks, Mark. That's what we
 4 were hoping to hear from you. Are there any questions from
 5 the panel?
 6 MR. KOZLOWSKI: The demos you described, were these
 7 fully funded by the government or was there company
 8 investment involved?
 9 MR. RONALD: Almost all of them were at least --
 10 some were just funded by the company because we were trying
 11 to convince the customer that we could do something. About
 12 half of them were government funded, but in almost every
 13 instance we put our money in as well.
 14 MR. KOZLOWSKI: The reason I went along that line,
 15 as you tend more toward a commercial environment, you can
 16 almost literally see in the industry developing products,
 17 putting them on the shelf, just like General Motors or
 18 Chrysler might do, except they've got a billion customers,
 19 you've got one. So there is tremendous risk in developing a
 20 product on your own funds.
 21 On the other hand, I'm looking for a solution or
 22 an avenue that allows us design vitality, and by that I mean
 23 keeping a group of people efficient in doing the kind of
 24 things that we do. And the state of the art tends to
 25 progress, at least in my mind, about how many times you get

Page 127

1 to try, and not how much time elapses. If I could build
 2 somebody's demos, four of them in one year, I guarantee you
 3 the last one is going to be a hell of a lot better than the
 4 first one.
 5 The question is, where do you get the resources to
 6 do this and all that kind of stuff? But there are
 7 accelerated prototyping things you can do. Some things you
 8 can even do by computer today with simulation, CAD/CAM
 9 tools, and things of that sort. But there's nothing like
 10 giving an engineering and a production team, for that
 11 matter, a chance to build something.
 12 MR. RONALD: Let me comment on a couple of those
 13 comments you made. Generally, I agree with what you're
 14 saying, but there are a couple of issues buried in there.
 15 First of all, I do not believe that industry can or should
 16 or will invest the money to take a product all the way
 17 through to production effectively the way the automobile,
 18 for just the reasons you said.
 19 That said, you can still demonstrate a lot in a
 20 short period of time. JSF is a good example, the example I
 21 gave, and there are many others. And I would still submit
 22 that that is much better, more efficient, will propel
 23 technology and reality a lot faster. I would submit that
 24 the CAD/CAM and the other types of demos are potentially as
 25 seductive as the paper proposal. You could do a lot now

Page 128

1 with 3-D visual aids. We've got several of these things,
 2 and I'm sure you've all seen them. You put on the glasses
 3 and it looks like the thing exists.
 4 But sometimes there's not much behind that stuff.
 5 So that's still different than building something like a JSF
 6 that actually has to fly. That's tougher, as I know Frank
 7 and others can attest to. So I would submit that you're
 8 still better off putting some money out there.
 9 With regard to the tech base that you commented
 10 on, again, I'm for multiple studies. I think that will
 11 encourage the tech base. I do not believe that you should
 12 spend a dime protecting the tech base in its current form.
 13 If you look at where innovation comes from, at least half
 14 the time it's not from the expected source. And to be less
 15 controversial, I will just point to digital cameras, which
 16 didn't come from Kodak, although they're now back in it, or
 17 any one of the number -- you know, the carbon paper guy does
 18 not invent the copier. The camera maker doesn't invent the
 19 light bulb. It just doesn't happen that way. I stole that
 20 one from John Hamre, so I'll give him credit for it.
 21 So you have to put money out there and feed
 22 technology and invest in technology, as the government does.
 23 But it isn't necessary, and it isn't even necessarily smart
 24 to give it, even though we're a traditional supplier, it
 25 isn't necessarily the best investment certainly to

Page 129

1 exclusively give it to your incumbent supplier or your
 2 traditional supplier.
 3 As a minimum, you want to open that aperture up
 4 and spread some of it more broadly, because the non-
 5 traditional supplier will sometimes, as in the case I gave
 6 before on UAVs, will sometimes come up with a solution. But
 7 that said, I think you raise some very cogent points, Don,
 8 and I generally agree with your comments.
 9 CHAIRMAN KADISH: We've heard suggestions about
 10 broadening this up to non-traditional suppliers. And your
 11 example of the UAVs is a good one. But usually we go down
 12 the path of people who have not done business with the
 13 Defense Department before, and how do you bring them into
 14 the fold if you're going to truly get the kind of innovation
 15 you're talking about?
 16 Even at the concept study level, there seems to be
 17 great resistance for coming forward with these ideas. And
 18 I've always had a hard time explaining to people why the IT
 19 people are still Lockheed Martin, L-3, you guys, as opposed
 20 to Microsoft, CSC, Cisco. Do you have any thoughts on that
 21 matter? Is that a bridge too far, or do we need to take a
 22 different look at the Defense industrial base from that
 23 standpoint?
 24 MR. RONALD: Boy, a great question, and I certainly
 25 have pondered this one. It's probably a bridge too far, as

Page 130	Page 132
<p>1 much as I hate to admit that, because there is clearly a 2 vibrant commercial capability. But this is such a radically 3 different market, and frankly, for some of these companies, 4 this is a small market. I'm not sure you can get their 5 attention. Are they going to put their best -- let's take 6 Microsoft as a great example. When I sell you effectively a 7 software engineer, and you get that line of code buried in a 8 lot of other lines of code and then a disk or whatever form, 9 I make particularly in development 8 percent, 10 percent if 10 I've done a great job and I got a good contract time and an 11 award fee, and my average award fees are 95 percent as a 12 company. Maybe I'm going to make 13 percent.</p> <p>13 Microsoft makes 300 or 400 or 500 percent, because 14 they sell that software to you and then they sell it to me. 15 As a matter of fact, when they sell it to you, they don't 16 send you a disk that you can copy. You pay, you may get a 17 good deal like we do because we're a big buyer, not as big 18 as you are, but we pay for every single one. And we've got 19 I think something like 50,000 desktops across our company, 20 so we're paying. And we use Outlook and so we're paying 21 quite a large bill for that.</p> <p>22 Until you decide that you want to pay that bill, 23 and sometimes you do because you buy commercial, you buy 24 what everybody else is buying and appropriately so. I'm not 25 sure the risk reward is going to attract that segment of the</p>	<p>1 not vertically integrated, didn't have a vested interest 2 elsewhere in the program that could really serve as like the 3 Aerospace Corporation, although I'm familiar with them. But 4 some of the companies you've picked have an inherent 5 conflict of interest, which is just not a healthy 6 environment. Some of them are trying to get more content, 7 not in the current phase, but in future phases of the 8 program, and that's not good. That is not good for anybody 9 That may be good for their shareholders, but it is not a 10 good thing.</p> <p>11 And so I don't know that there are enough 12 companies out there would can actually fulfill that without 13 that inherent bias. That's one problem that I see, and I 14 don't know the solution to that, other than to search out 15 other kinds of companies who would be better structured and 16 wouldn't have this inherent conflict.</p> <p>17 A second point is, at some point the elephant 18 becomes too big to swallow. I mean, all of us who have any 19 technical discipline or management discipline understand the 20 way you tackle a big problem is to break it into kind of its 21 component parts. And for some reason or another, somebody 22 believes we are going to be able to better tackle a big 23 problem by lumping it all together under one contract. I 24 believe that logic is fundamentally flawed.</p> <p>25 Now, can you afford to buy it in 3,000 parts? No.</p>
Page 131	Page 133
<p>1 marketplace. However, I do still feel that there is a 2 vibrant, albeit smaller, there is still a vibrant industry 3 out there, and there are new players coming in and people 4 rolling up and becoming larger players, as we have done, as 5 Frank, who spoke before me, has done.</p> <p>6 So at least as a minimum you need to open up the 7 aperture to a broader constituency within those who are 8 willing to do business with you, anything you can do. And 9 maybe you need to talk to those folks as well. I'm not sure 10 if they're scheduled to talk to you or not. But that's 11 where the ideas, why are they not willing to come in, and 12 what would you have to do to change as a customer to make it 13 attractive.</p> <p>14 CHAIRMAN KADISH: LSI, you mentioned it in passing 15 about the acquisition approaches that we use. Imagine LSI 16 is an interesting approach to business that might need some 17 vetting. Can you give us some perspective on this approach, 18 the government's uses, why you think we're using it? What's 19 wrong with it? Is it going to fulfill its promise, or does 20 it even have a promise?</p> <p>21 MR. RONALD: I think there's a combination here 22 that you have to consider. One is the structure of the 23 industrial base. And LSI, the lead system integrator, might 24 make sense if you had companies out there with a broad 25 system engineering program management capability but were</p>	<p>1 Should you buy an airplane by buying every single piece? 2 No. You should buy it from somebody who knows how to build 3 airplanes, and you should probably buy the major weapons 4 systems as a part of the airplane because it's a highly 5 integrated thing these days. And there's too much 6 interaction, I think, for the government to properly manage 7 things that are not on a single tightly-confined, power- 8 restricted, weight-restricted interactive thing like an 9 airplane you can probably buy in major chunks.</p> <p>10 And certainly things that are distributed amongst 11 major platforms, it's not clear to me why you shouldn't buy 12 them individually, because even though that represents more 13 procurement actions and maybe more work within the 14 government, I'm not sure that the conflicts I referred to 15 earlier, that we can necessarily guarantee that it can be 16 done any better.</p> <p>17 But the story is still out. It is too early to 18 form that judgement. I think if you looked at programs, 19 however, the larger, probably the more difficult, the more 20 challenge, that would argue that it is not the panacea that 21 some people think it is.</p> <p>22 MR. KOZLOWSKI: As a follow-up to that, many people 23 have talked about systems being more complex as you blank it 24 out. One measure of complexity is everything is done by 25 software, so instead of having a few thousand lines of code,</p>

Page 134

1 we've got billions, and probably we're going to have
 2 gigabillions. How do you feel about that software
 3 integration problem? Is it something the industry can
 4 handle or are we getting out of control in the software
 5 world?
 6 MR. RONALD: No, I think industry can handle it. I
 7 think we're getting a lot better at it. You know, the first
 8 version of Bradley had no software. The current version has
 9 three million lines of code. That's approaching what was in
 10 the first version of the F-16. And you're right, that
 11 number is going to keep on going up and up.
 12 But we are, and many companies, while everybody is
 13 on the path, not everybody is there, but we're seeing a
 14 level 5 for virtually all of our locations where we do
 15 software, and we've gotten the costs significantly down, and
 16 certainly the work and the challenges is significantly down.
 17 I think industry has gotten, and the government for that
 18 matter, has gotten a heck of a lot better at software
 19 development. And so I'm not sure it's the black art that
 20 people once thought it was, or it can't be done in a
 21 disciplined manner.
 22 We still have the issues that we talked about
 23 earlier of requirements creep and changes, and that will
 24 ultimately, as more of the solutions in software, that is
 25 going to affect the pace and the cost of software

Page 135

1 development. But that's not a problem inherent in software.
 2 That's a problem we talked about earlier.
 3 MR. CAPPUCCIO: Mark, do you believe that industry
 4 and/or the government have a good grip on the cost of
 5 software? We talked about cost realism up front. We talked
 6 about FCS. There's 32 billion lines of code. Do you think
 7 we have a handle yet on what software should cost? We
 8 estimate the reusability and we find out it's not reusable.
 9 How do you feel about that? Is that something you raise as
 10 another effort of how we're costing software? It has to be
 11 a primary function on weapons system in the future where
 12 functionality is going to be -- 82 percent of the F-22 is
 13 functional software.
 14 MR. RONALD: In my judgement, the challenge, as you
 15 correctly pointed out in your question, how much of this is
 16 reusable. But that's not a question of judging what it
 17 costs to develop new software. That gets into this optimism
 18 trap, this seductive trap that we're both stuck in because
 19 we've got limited budgets and we want to win. And so we
 20 start to convince ourselves or you, or you help us convince
 21 ourselves that more of it is reusable, a different problem
 22 than estimating the cost of new software. Again, that gets
 23 back to cost realism, adequate cost for risk, how much of
 24 it. Okay, if 60 percent is reusable, maybe we should only
 25 budget for 40 percent, because we're all smart people and we

Page 136

1 know damn well that that's probably an optimistic estimate.
 2 And when we really get down to it, we've never had as much
 3 reusable in anything that we ever thought in any program
 4 probably.
 5 I know that's a bit extreme, but I wouldn't be
 6 surprised if it was actually correct. So we should
 7 therefore -- my system engineers and acquisition people,
 8 which I know exist in government, and some in this room no
 9 doubt -- that is why I want to have these independent
 10 reviews, because the smarter people, when they hear this
 11 silly estimate, will say, wait a second, what happens if
 12 it's not 40 percent, it's 20 or 60, it's 40. Make your
 13 estimate, tell me the cost, the delta cost for another 20
 14 percent new, and let's add that into management reserve.
 15 You may not budget that out, but we better have it on our
 16 pocket somewhere.
 17 But again, a different problem I think. We
 18 actually are pretty good these days because we have done it
 19 for quite a while now. Most systems have it, and we're
 20 certainly better on JSF than we were on F-22, because most
 21 of us have taken a few lumps and learned a few things along
 22 the way.
 23 MR. PATTERSON: Most, if not all, of the issues
 24 you've raised today could be lumped into a category that
 25 says if only the relationship between the DOD and industry

Page 137

1 were more cordial, better, more open, many of these things
 2 could be solved within the context of a dialogue. How do we
 3 get to -- what can we do to increase and better the
 4 relationship so that these kinds of problems can be
 5 addressed and many solved?
 6 MR. RONALD: Well, I think I certainly -- you
 7 correctly assessed that I believe a more open and honest
 8 dialogue would help. But I would say a better application
 9 of the limited resource would also help and quite a number
 10 of the other suggestions I've made would not necessarily be
 11 implemented simply by an open and more candid dialogue,
 12 because ultimate the only way things are going to fixed is
 13 an implement, which means, as I suggested before, we may
 14 have a candid dialogues software reuse, but if somebody
 15 doesn't actually budget for a lower number of reuse and
 16 therefore a higher number of budget, we're not going to be
 17 well-served.
 18 Now, you can interpret that as a part of this open
 19 and honest dialogue, or I would interpret it as you're never
 20 going to get that degree of candor and highly competitive --
 21 how often do you buy a combatant or a new fighter aircraft
 22 or a new land vehicle? And so in that kind of an
 23 environment were candor may not be rewarded unless you've
 24 got really, really good people in government and some quite
 25 intelligent, disciplined, and independent people assessing

Page 138

1 what they're being told.
 2 I believe that an open dialogue is not going to be
 3 sufficient. I think a better application of resources, as I
 4 said before, less reliance on paper proposals, more any way
 5 that one would have to demonstrate that they really have a
 6 solution in hand.
 7 CHAIRMAN KADISH: Let me put you on the spot in a
 8 different arena. Are there any implications for this panel
 9 on foreign investment in North American type of defense
 10 industries? We're kind of in the bull's eye of that. Are
 11 there any problems you perceive unique to that class of
 12 companies or parts of the industrial base?
 13 Because this seems to be more and more a
 14 globalized issue for us in the U.S., because as the industry
 15 has consolidated, there are indications that there are some
 16 areas that the only way to get competition is to open it up
 17 broader than the U.S. And this has huge policy security and
 18 competitive advantage type issues. Would you care to
 19 comment?
 20 MR. RONALD: Sure. First of all, I think
 21 competition is a good thing, and I think global competition
 22 is a good thing. The U.S. is a net exporter, and therefore,
 23 we are a net creator of jobs. Also, although some of my
 24 colleagues in industry look very American when they sit here
 25 in the United States, when I see them at the Paris air show,

Page 139

1 they look much more international. It's amazing what a
 2 flight across the ocean will do. And by the way, most of
 3 them have large numbers, as we have a large number of
 4 employees here in the States. Many of them employ them
 5 citizens in the U.K. The U.K. buys more, certainly much
 6 more as a percentage of their budget from the U.S. than goes
 7 the other way. It's arguably the most open market. Every
 8 country is a little bit different, so one cannot generalize
 9 about foreign ownership or procurement.
 10 We've certainly had success as I mentioned, the
 11 777 going all the way back to the Harrier selling here, but
 12 inevitably, we've had to build with a partner. In the case
 13 of the Harriers, you know, with Boeing, and that's also been
 14 a creator of jobs.
 15 With regard to the ownership of companies, if
 16 anything it has forced us to be, we believe, better, because
 17 if we end up on the front page of the Washington Post, we're
 18 more vulnerable frankly than a wholly-owned U.S. supplier.
 19 That said, I would point out that we are a publicly traded
 20 company. We're not owned by the British government. And 45
 21 percent of our shareholders -- surprise, surprise -- just
 22 like 40 percent of our employees and about 40 percent of our
 23 business, but 40 percent of our shareholders are over here
 24 in the U.S. these days.
 25 So we respond the same way any other public

Page 140

1 company responds, and hopefully any other good supplier
 2 responds. I believe we behave much like the other large
 3 businesses you have here and provide good products and
 4 services, and when we don't, you're going to stop doing
 5 business with us. So this business of national boundaries I
 6 think is a bit overplayed.
 7 Certainly the U.K. from the President on down is
 8 our closest ally. They fight shoulder-to-shoulder with us
 9 and our men and women in uniform, and it is in their best
 10 interest that they have the latest and best technology, and
 11 compatible technology and equipment and certainly
 12 communications with ourselves. And so we don't have to
 13 always go it alone.
 14 Now, again, it depends. I'm certainly not
 15 suggesting we should open our markets to certain other
 16 governments, but I think that's a case by case. I don't
 17 know if that answers your question or not.
 18 CHAIRMAN KADISH: Yes, thank you. Anybody else?
 19 MR. HAWLEY: Yes. Mark, you alluded to the adverse
 20 incentives that can come with a cost-plus contract. Under
 21 what conditions should DOD consider a fixed price with
 22 incentive contract? What kind of criteria do you think we
 23 ought to think about?
 24 MR. RONALD: I think these big complex systems have
 25 to be cost plus. I like cost plus award fee, because at

Page 141

1 least it gives some measure of incentive and some
 2 independent evaluation, so we're going to be motivated to do
 3 that which you folks are incentivizing us to do. I think
 4 you go to fixed price, I think history has shown that at
 5 least for these really complicated things that are going to
 6 change and where pushing the state of the art probably
 7 doesn't work.
 8 And frankly, when those ideas came forward, they
 9 sounded good to me as well. But they didn't work. And
 10 frankly, that's part of the danger of this panel. Although
 11 I know you're looking for new and innovative ideas, and I
 12 commend that, the scary thing about that is sometimes we
 13 don't know how those ideas are going to work in practice.
 14 So we can all think, boy, that sounds great, I hadn't
 15 thought of that. And we try to do it and we find out some
 16 3, 4, 5 years later that, well, there's a reason that hasn't
 17 been tried before. So that's why. And maybe I'm being
 18 overly conservative here, I apologize, but that is why we
 19 tend to say stay with things you have already done but on a
 20 limited basis, and employ them more broadly. I think that
 21 would be a big step in the right direction.
 22 And with regard to the types of contracts you
 23 have, generally you have a good variety. I do believe there
 24 are some abuses in the system, so we do have some companies
 25 who are taking cost-plus contracts and passing on fixed-

Page 142

1 price contracts to the middle tier. I've got to believe,
 2 although I wasn't here for Frank's testimony, I know that's
 3 a hard point with him. I have to believe he probably
 4 brought that up. And I know some other people. We're
 5 frequently more than 50 percent is directly with the
 6 government, but we're frequently in that position as well.
 7 And we're somewhat coerced into taking fixed price when the
 8 prime has cost plus, but they've got problems of their own
 9 that they didn't properly manage, so they're trying to
 10 contain costs, and so they're squeezing the supply base to
 11 take a fixed price.
 12 Sometimes that's appropriate. They should be
 13 driving a good bargain and getting good value for the
 14 taxpayer, but sometimes it's inappropriate. They've
 15 actually passed on the risk to the supply base and forced
 16 them to take it on a fixed-price basis. There isn't
 17 adequate oversight of that process from the government in my
 18 view.
 19 But I think generally the contract forms, there's
 20 a variety out there, and they generally are properly
 21 applied, which is why I mention that as a major element for
 22 change.
 23 CHAIRMAN KADISH: In the reforms of the past along
 24 these lines about staying with what we have done before,
 25 deploying more broadly, as you suggest, mil specs were a

Page 143

1 dirty word back in the late æ80s, and created an awful lot
 2 of impetus for reform. We got rid of mil specs. Cost did
 3 not go down as people would have expected. And in fact
 4 there is some evidence to believe that because we have fed
 5 off the value of mil specs that were used, post the
 6 inquisition reforms in various ways, they are now to the
 7 point where we almost have to impose these specifications
 8 again in order to get systems and systems type of work done
 9 correctly with the right quality.
 10 Is the mil spec standardization process,
 11 especially as you move down to the second, third, and fourth
 12 tier, something we ought to consider?
 13 MR. RONALD: No. I mean, certainly we need
 14 standards. I would clearly endorse that, because without
 15 standards you will not have interoperability, and clearly
 16 that's going to be the tentative warfare today, and it will
 17 be for the foreseeable future.
 18 But I think using commercial standards, which we
 19 have largely gone to, is a much better approach. There may
 20 be instances where we need to develop our own standard. But
 21 when I think of things that we've tried to do in the past,
 22 like even come up with a standard computer, it just doesn't
 23 make a lot of sense. We can't react as quickly as the
 24 commercial market. The commercial market will, again, to
 25 the point that we discussed earlier of attracting the

Page 144

1 commercial market, to the extent that we can use their
 2 standards, we'll be better off. It will cost you less
 3 money. You don't have to maintain the standard. It will
 4 always be up to date, and at least it provides one less
 5 impediment for the commercial sector to be bidding into this
 6 marketplace.
 7 Again, there's never any one rule which is going
 8 to apply all the time, so I certainly am not suggesting that
 9 there may not be instances where you need a specific
 10 military specification. But as a general principle, I think
 11 that was a proper move.
 12 CHAIRMAN KADISH: Any other questions?
 13 MS. STOKLEY: I have one sir. Hello, sir. Thank
 14 you for briefing. Judy Stokley from the Air Force. I was
 15 wondering if you could give us any ideas that you have for
 16 making the source selection process work better to get the
 17 realism in proposals.
 18 MR. RONALD: Again, I will come back to what I said
 19 before. I think, let's say there's a source selection.
 20 Well, I won't mention a specific command, but over there
 21 somewhere. Let's pick Dayton, Ohio just as a random point.
 22 (Laughter.)
 23 MR. RONALD: Then we're going to get the best
 24 people in Dayton, Ohio, and certainly there's a lot of great
 25 people there. But have they thought about bringing somebody

Page 145

1 from SECOM or Warner-Robins or Huntsville? Because there
 2 are some really talented people there as well. They don't
 3 have the lock on smart people at Warner-Robins, and if
 4 they've got something really complicated and difficult, why
 5 aren't we using some of that other talent? And by the way,
 6 they may represent some more independence, and again some of
 7 this forest for the trees. And maybe it's not quite the
 8 right analogy, but sometimes coming from somewhere else you
 9 can actually see things more clearly, particularly if you've
 10 got significant experience.
 11 At Hanscom, which you're familiar with, and lost
 12 some of your hairs over, you have the grey beards, not a
 13 politically correct term anymore, but grey hair.
 14 MS. STOKLEY: So you think that the expertise of
 15 the people evaluating the proposals is more of a driver than
 16 the criteria that leads to unrealistic proposals?
 17 MR. RONALD: No, I think it is both, but I would
 18 bring that expertise in as they determine the criteria. I
 19 would frankly have them review Section L and Section M.
 20 There's a lot of very capable people in the government. I'm
 21 not sure that you're deploying them as effectively as you
 22 can because they're so spread out, so somehow or another you
 23 need to find a way. That could be knowledge management and
 24 networks, but I'm not sure that anybody would really listen
 25 to each other. But maybe they would, because I think there

Page 146

1 are some cultural aspects there that would have to be worked
 2 as well, and some people have to really be encouraged. Or
 3 you could force it in a more formalized way.
 4 We've elected in our company to do both. We have
 5 significant management training programs that deal with
 6 being much more open to ideas from the outside and sharing
 7 ideas. But we also have this process I referred to earlier
 8 that forces an independent review. So when we make a bid,
 9 no bid decision on a significant opportunity, and there are
 10 thresholds, and with those higher thresholds become higher
 11 thresholds of independence.
 12 So if one of our groups is going to bid a quite
 13 large program, they're going to be forced to bring in some
 14 gurus from outside that business unit that is going to
 15 review it even at the bid stage, and that again, that is the
 16 bid, no-bid stage, again at the bid submission stage, and
 17 again at the taking of the contract, because we all know
 18 that there are CRs and DRs, and there is some requirements
 19 creep that happens between the RFP and the award, not an
 20 insignificant amount, as we all fully recognize. And so we
 21 bring people in at that stage as well.
 22 And then at every life cycle through the program,
 23 there's actually quite a number of stages we go through.
 24 Again, I'm not sure that that's necessarily the best
 25 process, but something along those lines would better use

Page 147

1 the talent. But I'm not talking about just a single point
 2 in time.
 3 MS. STOKLEY: Thank you.
 4 CHAIRMAN KADISH: Any other questions?
 5 MR. PILLAR: Mark Pillar from SAFAQ. How long,
 6 typically how long do you keep a program manager on the same
 7 program?
 8 MR. RONALD: We don't have any specific time scale.
 9 But if I had to pick a broad average, it's probably three
 10 years. That said, it would not be unusual then if that
 11 program manager, assuming they've done a successful job and
 12 moved on to a higher level of responsibility, it would be
 13 frequently the case that the next person on would be
 14 somebody from within the program. So it's not somebody who
 15 doesn't have the base of knowledge, so it may be one of the
 16 next level of disciplines down would then get promoted, or
 17 somebody from within that broad area.
 18 It would be more rare we would bring somebody in
 19 to an EW program from a flight program. It could happen,
 20 but it would be more apt to be somebody from within that
 21 domain, because we believe that domain knowledge, and again,
 22 the larger the program generally and the more complex, the
 23 longer the duration.
 24 MR. PILLAR: Do you tend maybe to move superstars
 25 around as they problem solve here?

Page 148

1 MR. RONALD: We have two forms of that. One is we
 2 have a very extensive program for the middle and the lower
 3 level. And so we try to identify the so-called superstars.
 4 We call them high potentials, by the way, early in their
 5 careers and move them around at that point where they're
 6 going to gain the most knowledge from broad exposure. Those
 7 are the ones who will ultimately hopefully have my job. So
 8 it's really the top of the top.
 9 And then the way we move people around at the
 10 later stages of their careers, you know, through these
 11 independent reviews, so they don't take over direct
 12 responsibility, although clearly if we have an issue we're
 13 going to bring so-called tiger teams, and different
 14 companies have different words, we're going to apply
 15 resources if we've got a challenge, as we certainly have had
 16 and no doubt will continue to have.
 17 One of the benefits of a larger enterprise is
 18 there is a pool of talent, and sometimes you can shift. And
 19 so we will bring resources to bear. But generally that may
 20 be for months -- first of all, it's for these independent
 21 reviews, which typically do not take more than a week. Then
 22 if we've got a real challenge, we will bring resources to
 23 bear, which may be anything from 3 to 6 months, those kinds
 24 of durations, and we will move people across the country.
 25 Sometimes that's a hardship on them and their families. But

Page 149

1 most people recognize that it's one of the things that it
 2 takes to make sure that the customers are satisfied, so
 3 they'll do it on a short duration. And we'll try to find
 4 some way of accommodating them if they have to go back and
 5 forth on weekends or whatever and there are practical
 6 problems in doing this in these large geographically-
 7 dispersed enterprises, and people with families and all of
 8 the issues that I'm sure the people in this room have. But
 9 we do that. But generally we don't bounce around we don't
 10 have a pool of people sitting there who are so to speak a
 11 talent pool who can draw on the fire fighters. We don't
 12 have our fire fighting brigade. Our fire fighters are in
 13 there working on programs today and not fighting fires, and
 14 their job is to prevent -- they are fire preventers, not
 15 fire fighters.
 16 And, by the way, we also don't have proposal
 17 writers. Even though I sometimes think it hurts us, which
 18 is maybe -- I was overzealous in my presentation because I
 19 want the person writing the proposal being the person who
 20 really knows what they're talking about, and going to the
 21 person who's not only making the commitment to you, but
 22 making the commitment to me and my shareholders that they
 23 can do it. But sometimes they don't write as well.
 24 Although when you have orals, which I also commend, the more
 25 and longer you can have, the truth comes out, at least a

Page 150	Page 152
<p>1 shorter version of demos, because, again, you sit somebody</p> <p>2 by the day or two and you ask them a bunch of questions. I</p> <p>3 think generally the government is more astute at that</p> <p>4 certainly than in reading proposals. And you can sort out,</p> <p>5 you can sort your way through the pretty veneer and find out</p> <p>6 if this is really a wood table or just pretty veneer.</p> <p>7 CHAIRMAN KADISH: Anybody else? I have one final</p> <p>8 question. Do you have any data or experience where we go</p> <p>9 through the proposal process, and after we award the</p> <p>10 contract, we don't do what we proposed, but change the</p> <p>11 requirements? In other words, we don't execute what was</p> <p>12 proposed, but change the program.</p> <p>13 MR. RONALD: Change is a relative word, Ron. I'm</p> <p>14 not sure I fully understand the question. If you were</p> <p>15 buying a coffee cup and then asking for a telephone, I don't</p> <p>16 think we have that happen to us. Or the coffee cup grow a</p> <p>17 handle or maybe have to handle super hot coffee, and also</p> <p>18 self-pour. That sometimes happens.</p> <p>19 (Laughter.)</p> <p>20 CHAIRMAN KADISH: That is what I was after. In the</p> <p>21 name of competition, there's a tendency to technically level</p> <p>22 and then when you get done and you award the contract,</p> <p>23 there's a group of people who would come in and change the</p> <p>24 requirements so that we get what we really wanted but</p> <p>25 couldn't do in the proposal process.</p>	<p>1 some way, shape, or form.</p> <p>2 MR. RONALD: I welcome the opportunity. This is</p> <p>3 important work you're doing.</p> <p>4 CHAIRMAN KADISH: Thank you for coming today.</p> <p>5 Thank you so much. And for those of you who are expecting</p> <p>6 more, you're not going to get it today.</p> <p>7 (Laughter.)</p> <p>8 CHAIRMAN KADISH: We're going to be adjourned in 30</p> <p>9 seconds and we will reconvene for panel members for</p> <p>10 administrative purposes at 4:00 in the other room.</p> <p>11 (Whereupon, at 3:45 p.m., the meeting was</p> <p>12 adjourned.)</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
Page 151	
<p>1 An example might be you ask to build a tank with</p> <p>2 one gun and propose to it, then they come in and say, we</p> <p>3 want a bigger gun, and that changes the whole baseline of</p> <p>4 the program, the risk profile and everything.</p> <p>5 MR. RONALD: Well, clearly that happens at times.</p> <p>6 I'm not sure that's premeditated on anybody's part. It's</p> <p>7 sometimes a requirement or hopefully with time got a little</p> <p>8 smarter and actually needed a bigger gun.</p> <p>9 CHAIRMAN KADISH: You don't see that as a systemic</p> <p>10 problem?</p> <p>11 MR. RONALD: No. I think there is this seductive</p> <p>12 nature of requirements creep, as I pointed out earlier, so</p> <p>13 we will always -- unfortunately, too many of us always want</p> <p>14 the latest and best, and a bigger gun is presumably better</p> <p>15 than a smaller gun, so let's go have at it, and since we can</p> <p>16 do anything, it is one of the great strengths of the</p> <p>17 American people. We can overcome any adversary and we can</p> <p>18 always do it. From childhood, the little engine that could,</p> <p>19 but unfortunately that sometimes gets us in trouble as well</p> <p>20 in that we, I don't think in a complicit or malicious way,</p> <p>21 but we have a tendency to over commit, and we have to</p> <p>22 recognize that, those of us with grey hairs. And we maybe</p> <p>23 are a little less willing to over commit.</p> <p>24 CHAIRMAN KADISH: Well, Mark, as usual, it was very</p> <p>25 good and provocative. We may ask you for a second round in</p>	

A	103:1	40:10 41:21,23	added 25:11	aerospace 4:6
abandon 102:18	accountable	42:3,11,12,13	addition 2:16,21	4:13 69:10
abandoned	25:21 26:24	44:19,19 46:10	14:3 28:13	109:8 132:3
101:5	27:4,12 40:22	47:5,15 52:8	109:22	affect 123:12
abdicated 79:20	46:17,25 48:12	54:10,16 55:19	address 20:6	134:25
ability 27:19	92:6 101:17,24	57:4,9 60:2	21:11 44:21	afford 42:8,9
29:5 113:6	102:13	67:6 69:23	59:8 62:4	43:18 117:13
124:21	accounts 59:19	73:1 77:17	102:23	132:25
able 20:5,10,12	63:11	79:24 82:6	addressed 20:21	affordable
22:8 25:20	accuracy 36:3	83:24 94:8	61:14 137:5	121:17
61:5 69:15	achievable	100:24 101:3	addressing	afraid 70:22
75:18 103:25	116:1	101:15 109:6	126:2	afternoon 5:20
119:5,17	achieve 38:22	109:13 110:19	adds 112:22	65:21 67:1
124:23 132:22	106:14 121:16	117:24 118:14	adequacy 8:15	age 69:6 119:9
Abrams 39:19	125:6	119:2 120:25	adequate 135:23	agencies 120:10
abrogate 105:25	achieving	131:15 136:7	142:17	120:13
abrogating	102:25	acquisitions	adequately	agency 99:8
106:4	acquire 12:10	32:6 69:19	52:17 115:2	agenda 2:7 4:17
absolutely 63:7	60:2	70:13	124:13	4:22 6:7,11
85:14	acquired 46:20	act 27:22 28:1	adhere 71:22	aggregated
absorb 89:18	110:7	ACTDs 53:16	78:9	16:23 70:14
abuse 52:10	acquiring 12:8	53:19	adjourned 152:8	aggregating
abuses 141:24	46:22	acting 73:3	152:12	10:2
accelerated 31:3	acquisition 1:5	action 20:23	administration	aggregation
127:7	3:2,4,8,14,25	105:10	42:16	10:4
accept 45:14	4:1 5:2,5,7,8	actions 133:13	administrative	aggressive 9:24
49:5	6:9,21 7:12 8:4	actively 77:10	6:4 102:9	61:21 89:12
accepted 34:23	9:21 10:15,22	77:24	152:10	ago 25:24 71:21
accepts 79:9	11:11,13,22	activities 5:6	admit 130:1	77:21 105:20
accommodated	12:4,7,15,16	12:15 17:4	advance 7:9	111:19
52:20	13:2,5 14:22	39:10	advanced 4:8	agree 14:4 34:15
accommodating	16:10,14 17:2	activity 50:17	64:15,24 82:25	61:20 85:4
149:4	17:23 22:1,11	96:8	98:6	127:13 129:8
account 83:24	22:25 23:3,16	actual 59:19	advantage 54:8	agreed 49:5
99:21,22 115:5	24:2,9,13,21	actuators 35:18	138:18	68:15 73:22
accountabilities	25:16 26:2,10	35:19	adversary	ahead 10:23
51:10	26:11,12,16,19	ad 62:19	112:17 151:17	15:5 40:6
accountability	27:1,9,10,13	adapting 60:4	adverse 140:19	65:24 78:19
23:16,23 25:18	27:14,22 28:4	add 12:3 13:20	advisory 27:20	aids 128:1
26:14 29:11	30:3 31:10,11	14:5,7 15:11	advocacy 43:15	air 3:15 4:1,11
33:4 38:16,19	31:16,22 32:23	16:6 19:12	45:13	6:21 22:1,11
41:7 47:8,12	32:24 33:5,8	21:6 25:12	advocate 64:5	25:23 26:3,4
47:13,17,18,20	34:3,16 36:11	28:14 37:3	115:5	33:8,9,20 45:5
50:23 51:9	36:12 37:16	89:2 90:21	Aerodynamics	46:20,21 48:17
79:19 92:4,14	38:6,9,10	123:9 136:14	4:9	48:18 63:8

73:21 106:3 138:25 144:14 aircraft 124:2 137:21 airframe 38:8 airplane 30:12 33:14 36:4,8 37:11 40:8 43:22 44:12,15 55:8 91:20 95:16 100:6 120:17 133:1,4 133:9 airplanes 35:13 35:19 58:7 59:5 86:17 98:1,2 133:3 airport 111:14 Alabama 64:11 albeit 110:4,25 123:5 131:2 align 26:23 Allen 4:6 allies 32:13 allocating 52:24 allocation 43:9 allotting 33:4 allow 45:15 71:17,18 90:13 91:3 125:10 allowable 63:3 allowed 36:17 90:16 94:7 104:2 allows 126:22 alluded 10:19 40:20 140:19 ally 140:8 all-electric 3:10 93:4 alternate 107:9 alternative 95:4 alternatives 31:16 amazing 139:1	ambitious 6:6 America 98:4 99:10,12 100:20 102:7 104:19 107:2,7 American 138:9 138:24 151:17 amount 7:18 64:4 146:20 amplified 76:7 amply 111:3 analog 35:14,23 analogy 145:8 analysis 31:15 88:9,9 113:23 analytical 6:21 analyze 24:4 and/or 135:4 Annette 3:16,16 announcement 85:16 87:6 annual 41:9 answer 2:6,11 28:16 37:13,17 47:10 52:12 54:14 62:20 72:20 79:8 80:2,24 90:4 answered 88:24 answers 5:24 6:1 9:1 10:5 140:17 Anteon 1:11 anticipated 42:4 123:15 anti-corrupt 74:3 anxious 114:2 anybody 6:12 10:16 34:14 40:19 57:18 61:10 64:25 65:6,6 75:3 83:16 102:22 108:1 132:8	140:18 145:24 150:7 anybody's 151:6 anymore 64:16 90:6 91:19 145:13 anyway 34:2 61:13 88:12 91:24 112:6 AOA 55:15 apart 39:24 aperture 123:7 129:3 131:7 apologize 141:18 appear 40:24 appears 14:21 applauded 42:17 application 137:8 138:3 applied 142:21 apply 121:20 122:11 144:8 148:14 appreciate 108:7,10 109:4 appreciates 109:5 appreciation 28:7 approach 10:9 37:20 95:7 101:5 131:16 131:17 143:19 approaches 131:15 approaching 134:9 appropriate 2:5 24:16 48:11 101:25 116:4 142:12 appropriately 130:24	approval 119:12 approved 56:12 apt 147:20 arbitrary 28:12 28:18,22 area 7:16 9:20 10:1 13:13 18:9 50:22 68:11 70:1,6,8 85:12 99:9 114:25 147:17 areas 6:10 8:23 9:2,4 10:5 30:5 55:23 56:24 69:20 70:4,5 86:17 106:23 106:23 138:16 arena 5:3 138:8 arguably 139:7 argue 123:9 133:20 argument 58:9 98:20 ARH 73:13 Arlington 1:15 Army 2:24 3:2 42:16,17 63:10 73:8,21 110:3 arm's 51:19 75:18 arrived 21:16,20 33:22 art 24:10 91:8 126:24 134:19 141:6 articulated 75:12 articulating 88:14 Ashley 33:12,18 37:22 aside 28:25 asked 6:22 18:13 19:7 33:13 50:24	65:19 67:15 68:10 115:11 asking 7:10,15 54:2 77:13,13 87:24 101:7 108:18 109:1 150:15 aspect 2:15 36:2 115:22 121:10 aspects 16:21 60:9 95:17 146:1 assemble 62:3 assert 47:16 92:4 assertion 16:22 assertions 53:24 assess 24:5 assessed 137:7 assessing 23:15 137:25 assessment 1:5 51:22 108:21 assessments 113:21 asset 30:16 assign 103:10 114:20,21 assigned 3:10,24 3:25 assistance 3:1 assistant 3:1,4,5 3:14 56:10 assistants 27:20 assisting 2:19 associate 95:12 associated 13:16 96:10 association 5:19 31:20 65:12 associations 5:15 8:1,3,4 9:9 10:14 62:21 assuming
--	--	--	---	--

147:11	automotive 84:3	51:1 52:7,9,19	138:12 142:10	135:3 137:7
assumption	autonomy	65:13 72:18	142:15 147:15	138:2 139:16
40:22	125:22	75:19 76:12	based 9:7 19:8	140:2 141:23
assumptions	availability	80:16 84:2	19:11 21:1	142:1,3 143:4
39:17	18:19	86:7 95:2,18	52:5 63:19	147:21
astute 150:3	available 12:22	101:2,6 108:9	88:20	believes 132:22
attempt 2:11	18:4 19:18	108:12 112:15	baseline 151:3	bellies 90:1
attention 19:1	35:11 50:8	128:16 135:23	basic 64:25	Belvoir 49:25
29:22 48:25	100:21 119:10	139:11 143:1	basically 8:22	benefit 71:6
49:14,24 73:4	119:22	144:18 149:4	15:7 68:6	88:5 107:6
78:5,8 91:2	avenue 126:22	bad 28:5 29:3	basis 16:25 41:9	119:16 123:16
108:14 130:5	average 50:1	48:5 50:25	55:9 62:24	benefits 148:17
attentive 52:15	130:11 147:9	51:14,14 79:25	90:14,22	Bernie 104:23
attest 128:7	aviation 98:7	81:9,10 83:25	104:16,16	best 24:3 29:5
attract 130:25	avionics 35:20	93:17	114:8 141:20	29:24 30:2
attracting	35:21,23	BAE 5:25	142:16	39:19 54:18,18
143:25	award 48:15,19	108:16,19	baskets 9:2	57:21 60:13,16
attractive	48:19 49:10,11	109:17 114:10	BEA 119:13	61:1,4 64:13
131:13	49:17,21 50:1	bag 113:22	bear 148:19,23	71:6 86:1,10
attribute 120:6	50:5,10,14,16	bail 62:6	beards 145:12	90:20 111:7
AT&L 39:11	57:14 58:17	balance 95:25	bears 92:5,8	116:19 117:22
audience 8:7	77:23 116:5	ballooning	beat 90:16 91:14	117:25 119:16
21:25 108:2	130:11,11	17:12	becoming 97:25	121:6,16
audit 103:23	140:25 146:19	baloney 79:9	117:20 131:4	128:25 130:5
104:6,9 105:13	150:9,22	bar 8:11	beginning 10:6	140:9,10
audited 72:3	awarded 78:3	bargain 142:13	14:16 44:12	144:23 146:24
79:4	113:24	bargaining 16:3	47:25 48:8	151:14
August 1:9	awarding 49:20	barred 101:11	110:12 113:21	best-value 59:24
Augustine 68:9	51:24 52:5	Bartlett 3:12	behave 140:2	bet 103:16
75:6	aware 56:22	base 53:23,25	behavior 49:15	better 6:10
Augustine's	110:2 111:18	54:3,9 56:23	believe 8:12	32:10 34:21
75:19	awful 143:1	57:2,5,7,9,16	13:9 19:10	35:22,24 36:2
authorities 27:9	awry 41:10	57:20 58:12	23:19 25:15,18	42:5 45:17
27:10 81:11	A's 61:6	60:12 61:19	26:17 42:23	78:20,20
authority 26:23	A-Team 6:20	64:2 68:5,24	64:23 68:4	109:14 113:7
27:2,13 32:21	a.m. 2:2	69:12 71:4,8	84:21 104:20	113:20 115:16
33:5 41:6 80:8		71:16 72:12,12	109:10,15,22	115:20,22
80:15 84:6	B	73:15 75:9,23	113:1 114:24	118:14 119:9
94:8 101:14	back 2:22 3:21	76:6,7,14 77:1	116:3,24	122:1,22 127:3
102:15 103:21	15:12 23:13	77:4 79:15	117:11,22	127:22 128:8
125:24	34:2 37:3,7,15	84:22 91:5	121:12 123:17	132:15,22
authorization	38:25 39:13	96:6,8 97:19	123:20 124:7	133:16 134:7
27:21	45:23 46:11,16	106:16 112:13	124:10 125:6	134:18 136:15
automobile	46:17,23 47:10	128:9,11,12	125:13 127:15	136:20 137:1,3
127:17	47:23 49:19	129:22 131:23	128:11 132:24	137:8 138:3

144:2,16	bill 42:3 47:2	58:10	bringing 37:19	69:25 100:18
146:25 151:14	89:22 99:14	bombing 36:3	144:25	107:2 127:1,11
beyond 18:14	115:6,7,13	Booz 4:6	brings 108:18	133:2 139:12
24:25 25:2	130:21,22	Boston 111:16	Britain 115:17	151:1
61:12 79:16	billion 41:18	bothered 97:8	British 139:20	builder 59:3
81:12 103:7	46:5 63:8	bottom 111:4	broad 131:24	builders 100:6
124:12	69:23,24 75:15	bought 33:20	147:9,17 148:6	building 41:5
bias 132:13	86:21 95:3	79:7,7 106:24	broadening	56:20 59:1
bid 28:24 33:15	99:21,22 105:1	107:9,14 118:7	129:10	70:3 128:5
55:3 81:19	105:1 109:10	123:2,5 124:19	broader 131:7	built 9:14 67:10
82:13,20 87:25	109:18 111:15	124:19	138:17	79:4 98:4
114:9,18	111:18 126:18	bounce 149:9	broadest 75:9	115:2
119:11 146:8,9	135:6	boundaries	broadly 118:19	bulb 128:19
146:12,15,16	billions 90:21	140:5	125:15,19	bullet 8:2
146:16	91:4 134:1	bowels 79:2	129:4 141:20	bullets 113:15
bidding 48:3	bills 42:12	box 42:25 68:12	142:25	bull's 138:10
58:16 78:4	binary 122:20	104:12	broke 68:20	bumped 15:16
114:15 144:5	bioward 84:23	boxes 70:1	broker 87:17	bunch 41:4,5
bids 29:2 121:20	bit 10:12 15:8	boy 129:24	brokers 46:8	46:22 74:21
big 5:7 10:20	31:15 44:25	141:14	Brooks 28:1	79:9 150:2
11:25 12:16	48:25 68:2	Bradley 110:8	brought 105:11	bundled 9:2
13:6,15 14:9	92:3 110:9,12	134:8	105:20 142:4	bundling 75:24
16:12,14,16,20	125:5 136:5	branch 101:25	Brown 3:24	burden 90:7
17:2,18 20:9	139:8 140:6	brand 74:22	buck 103:7	bureaucracy
30:19 31:19	black 68:12	113:12	budget 15:25	25:14 74:10
34:4,7 42:12	83:20 134:19	break 5:11,19	40:23 41:1,9	77:14 98:16
46:1 57:4,4	Blackberry	15:6 16:6	42:8 44:24	buried 127:14
58:7 59:4,22	71:11	21:16 68:11,16	45:22 47:1,1	130:7
67:10 70:17	blank 74:3	87:15 132:20	59:15,19 69:1	business 8:9
71:3 75:5	133:23	breaking 42:13	99:16,20	19:3,13,19,24
78:24 82:1	block 34:24 74:5	90:2	103:18,19	28:23,25 29:2
86:16 87:14	117:8	bridge 129:21	113:24 114:5	41:21 57:14
88:15 90:10	blow 39:24	129:25	121:3,21,22	59:1,11 78:4
93:5 96:7	Bldv 1:13	briefing 5:4 6:24	122:12 135:25	78:16 80:13
100:14 104:15	board 18:5 19:7	7:1 8:12 12:24	136:15 137:15	89:13 90:20
105:5,5 106:18	64:20	102:11 144:14	137:16 139:6	97:21 108:20
111:12,13,16	boat 93:4,13	briefings 9:5	budgeted 111:15	119:15 129:12
111:21 113:2	99:13	10:10	111:18	131:8,16
122:12 125:20	Bob 78:8	brigade 149:12	budgeting 11:15	139:23 140:5,5
130:17,17	Boeing 58:9	bring 46:15 60:8	45:19,20	146:14
132:18,20,22	64:10 73:10	63:20 105:13	budgets 59:14	businesses 140:3
140:24 141:21	98:2 139:13	129:13 145:18	135:19	busy 61:1
bigger 151:3,8	Bolton 3:6 73:21	146:13,21	build 30:16 38:8	button 88:12
151:14	73:23	147:18 148:13	56:19,21,22	buy 17:18 18:21
biggest 69:13	bombers 58:9	148:19,22	59:4,4 69:15	18:21 33:10

36:15 44:5	cameras 128:15	careers 148:5,10	centralize 55:23	108:14 110:18
55:8 77:9,11	campaign 70:10	careful 54:22	cents 82:9,10	126:3 129:9
77:12 85:4	cancellation	82:16,17	CEO 5:21 75:6,9	131:14 138:7
89:2,3 91:20	47:19	carriers 39:20	78:6,10 108:16	140:18 142:23
94:8 96:16	candid 137:11	44:16	CEOs 91:1	144:12 147:4
97:8,16 98:23	137:14	cascading 28:23	certain 19:7	150:7,20 151:9
98:24 99:10,11	candidates 7:2	case 38:14 71:15	41:24 83:18	151:24 152:4,8
99:12 107:11	9:17	72:9 86:9 97:8	140:15	challenge 18:18
130:23,23	candor 137:20	113:25 125:20	certainly 17:18	20:24 38:23
132:25 133:1,2	137:23	129:5 139:12	34:16 54:4	112:10 114:22
133:3,9,11	capabilities	140:16,16	58:2 86:15	133:20 135:14
137:21	14:11 34:24	147:13	89:10 92:24	148:15,22
buyer 81:19	118:23 119:3	cases 18:14	113:25 116:5	challenges
130:17	capability 12:2	26:17 27:18	118:10 120:9	111:22 112:5
buying 12:21	12:9 13:23	47:4 58:21,22	121:20 123:6	134:16
107:12 113:22	14:6 17:24	59:19 68:3	124:12,23	challenging 10:4
116:23 118:2,3	43:23 77:20	70:25 72:13	128:25 129:24	115:3 117:21
122:2,5 125:23	79:15 106:14	78:21 93:1	133:10 134:16	chance 31:15
130:24 133:1	120:18 123:18	cash 90:19	136:20 137:6	32:2 127:11
150:15	130:2 131:25	catch 61:24	139:5,10 140:7	chances 36:10
buys 139:5	capable 70:5	catchy 122:20	140:11,14	36:17
bypassed 30:7	99:18 105:12	catch-22 81:13	143:13 144:8	change 45:7
B-1 40:3,5	125:2 145:20	81:17,23	144:24 148:15	49:15 53:10
B-2s 44:4,6	capacity 3:4	categorized	150:4	81:21 93:6
	56:24	16:11	cetera 76:14	112:21 120:2,4
C	capital 34:8	category 16:20	107:11,11	131:12 141:6
C 51:25	106:20 107:22	18:8 136:24	chain 51:9	142:22 150:10
CAD/CAM	107:24	catered 52:18	chairman 4:5,17	150:12,13,23
127:8,24	Cappuccio 4:7	cause 30:14	4:21 5:21 6:15	changed 13:7
CAKE 30:21,23	42:23 49:9	124:15	10:8,18 14:4	54:12
44:22,23	59:21 60:15	caused 75:24	15:1,4 16:5,17	changes 82:16
call 5:7 7:6,15	61:9 84:20	causes 110:23	18:24 20:13,15	82:18 116:2
7:21 9:4 32:6	85:14 88:7	116:8	21:8,20 34:10	134:23 151:3
56:9 67:3	135:3	causing 81:8	34:13 38:23	changing 39:5
70:16 74:20	captive 13:6	115:8	40:19 47:7	112:18
91:13 110:1	capture 2:17	caveat 17:7	50:3 51:7	charge 17:16
118:25 119:14	capturing 2:16	CD 105:18	53:23 57:18	22:23 39:18
148:4	car 64:7	ceiling 82:7	61:10 65:6,9	chart 8:11 11:23
called 6:20	carbon 128:17	cell 71:12	65:23 67:3,23	12:18 13:3,22
17:21 24:25	card 43:6	center 4:1 16:20	74:16 75:3	124:17
28:1,23 29:13	cards 2:7	25:25 26:1	84:16,19 88:22	charter 13:9,12
32:11 36:7	care 41:4 138:18	27:23 64:21	92:2 93:18	24:22 61:12
64:21 107:7	cared 72:16	centers 26:16	95:4 96:5	chartering 11:1
Camden 104:3	career 26:19,19	27:23 35:14	100:22 102:22	charts 24:11
camera 128:18	27:7	46:11 80:23	108:1,4,8,12	30:4 75:3

<p>112:2 cheaper 40:7 110:15 check 91:14 chief 3:18 26:12 37:13,16 39:15 41:15 chiefs 26:25 32:24 39:3,18 43:5,9 52:9 childhood 151:18 chip 98:1,4,8 choice 37:6 chop 46:2 Chrysler 64:7 126:18 chunks 133:9 CINC 53:2,6 Cincinnati 64:11,12,13 CINCs 52:14,17 52:20,22 53:14 circa 38:25 circles 11:14 14:17 circumstances 85:1 Cisco 129:20 cite 78:21 citizens 139:5 claiming 123:24 clarified 80:9,15 clarifying 100:23 class 3:10 138:11 classified 110:1 clear 4:22 23:21 133:11 clearly 112:10 115:12,20 116:20,20 118:13 122:7 130:1 143:14</p>	<p>143:15 145:9 148:12 151:5 clever 113:11 116:14 cliche 119:18 clients 46:21 CLO 80:12 close 8:9 9:16 32:3,3 41:19 44:22 110:4 closed 6:2 closer 30:21 closest 140:8 close-out 9:17 cloudy 16:4 clout 98:14 100:4 CMM 119:4 CMMI 119:4 code 31:12 130:7,8 133:25 134:9 135:6 coerced 142:7 coffee 150:15,16 150:17 cogent 129:7 cognizance 103:18 coherent 51:11 coined 117:10 colleagues 111:24 138:24 collected 9:11 collection 7:2 8:10,12 9:16 collective 16:3 colleges 118:15 Colonel 3:16 column 9:9 COM 53:17 combat 4:12 17:20 53:21 59:2,2 63:19 122:23 combatant</p>	<p>137:21 combination 114:1 131:21 come 19:8,11 20:20 22:9 34:2 41:3 45:11 47:10,23 51:1 54:24 59:13 62:6 65:15 67:5 71:2,8,12 73:25 85:9 95:2,23 96:1 104:8 105:22 108:12 112:14 112:24 113:12 116:11,21 119:18 121:1 123:1 128:16 129:6 131:11 140:20 143:22 144:18 150:23 151:2 comes 3:19 46:23 49:10 55:2,16 60:16 63:1,18 64:15 102:16 128:13 149:25 coming 5:18 8:21 12:25 15:6 29:18 41:12 65:17 105:4 129:17 131:3 145:8 152:4 command 4:12 25:24 26:2 27:15 32:24 33:11 39:10 79:6,13 144:20 commander 3:7 3:8 4:11 33:11 33:23 commands</p>	<p>29:15 113:22 118:2 125:23 commend 25:1 118:15 122:15 141:12 149:24 comment 47:20 50:3 92:7 93:20 117:2 127:12 138:19 commented 128:9 comments 10:7 14:13 20:2 67:19 72:17 127:13 129:8 Commerce 98:18,21 commercial 18:15 55:9 77:2 79:6 98:1 98:2,6 111:25 112:1 122:9 126:15 130:2 130:23 143:18 143:24,24 144:1,5 commercially 97:14 98:23 Commission 24:24 25:1,4 39:2,22 commit 43:14 107:10 151:21 151:23 commitment 149:21,22 committee 77:7 commodity 97:25 common 118:22 communication 105:19 communicatio... 5:21 67:5 140:12</p>	<p>community 119:2 companies 29:1 58:19 68:7,13 68:23 69:14 70:7 71:10,14 74:20,21,22 76:8 86:12 96:25 100:17 102:7 118:21 122:8 123:3 125:21 130:3 131:24 132:4 132:12,15 134:12 138:12 139:15 141:24 148:14 company 67:10 68:18 69:4,12 69:21,24 78:6 78:15,16 80:10 80:11,12 85:8 86:8,8 94:4 96:16 102:8 103:3 106:19 106:20 107:2,7 107:9 109:5,7 109:8,18 110:10 124:18 125:19 126:7 126:10 130:12 130:19 139:20 140:1 146:4 comparative 32:11 compare 7:22 111:13 comparison 112:1 comparisons 111:11 Compass 110:1 compatible 140:11 compensate</p>
---	---	---	---	---

90:12,24	complaining	concerned 75:11	considered 68:3	17:16 18:3
compete 55:10	96:21	concerns 52:22	98:5	20:22 40:11
55:11,25 58:18	complete 84:3	85:3	considers	61:18 137:2
59:1,9 70:23	117:7	conclude 23:12	114:18	contingent 3:15
72:10,14 73:10	completed 9:6	condition 76:7	consistent 51:11	continue 24:4
75:18 76:8,16	completely	conditions	consistently	25:12 28:21
76:19 78:19	87:11	140:21	125:15	75:22 112:25
84:12 85:22	complex 9:20	conducive	consolidate	148:16
86:22 94:10	10:3 24:8 96:3	116:12	69:11 99:25	continued 76:5
95:10,13,19	106:9 111:12	conducted 8:9	117:24	continues 71:15
competed 70:20	112:6 118:4	9:25 81:10	consolidated	continuous
70:21,24,25	119:2 121:11	conducting 2:19	99:14 100:1,16	16:14
71:19 73:15,16	133:23 140:24	conducts 7:7	118:21,22	contract 27:19
76:3 78:23,25	147:22	conduit 2:22	138:15	28:8,16,24
85:13	complexity	confirmed 7:24	consolidating	48:2,9,11,17
competent 75:20	112:22 133:24	conflict 132:5,16	69:9 125:13	48:19 49:1,5
competes 85:23	compliance 74:3	conflicting	consolidation	49:24 50:8
competing 83:4	103:2	25:11	54:6 68:22,24	51:4,22 57:14
84:12	compliant 78:7	conflicts 133:14	68:25 69:11	60:19 72:2,19
competition	complicated	confused 26:17	74:19,22 96:7	72:22,24 77:19
28:16,17 54:8	111:22 141:5	Congress 14:7	99:7,17 100:9	78:2,4,6 82:5
54:16,18,19,24	145:4	45:12 74:13,14	112:13 118:20	83:11 86:4
55:2,13,16,17	complicit 112:12	91:15,15	consolidations	87:25 92:13
55:20 56:2,8	114:5 124:14	101:12 113:18	54:23	95:12 103:2
57:23 58:13,21	151:20	115:15	consolidator	104:12 113:24
58:22 59:5,22	complimentary	congressional	75:22	116:10 130:10
60:4,11 62:7,8	73:8	98:14	constantly	132:23 140:20
62:9,18 71:1,3	comply 74:4,5	congressionally	112:18 114:3	140:22 142:19
71:23 77:20	component 75:9	74:11	constituency	146:17 150:10
84:24 85:1,17	132:21	connotation	100:11,11,13	150:22
88:8,8 89:2	components	94:19	131:7	contracted 20:8
122:22 138:16	35:16 78:23	consent 86:25	constrained	83:11
138:21,21	comprehensive	consequence	121:22	contracting 12:8
150:21	9:19 10:9	52:16 117:23	constraint 89:15	32:21 55:23
competitions	compromise	Consequences	constructive	77:18 121:19
59:23	82:1	76:25	120:23	122:4
competitive	computer 127:8	conservative	consultant 4:11	contractor 6:20
32:18 48:3	143:22	141:18	4:13 124:1	70:2,4 71:24
51:2,3 54:2,17	concentrating	consider 34:6	consultants	85:24 86:16
55:5,21 62:16	12:1	97:25 124:13	123:22	89:17,21 90:7
72:4 111:8	concept 70:15	124:15 131:22	consume 14:23	90:12 94:2,6
137:20 138:18	122:18,21	140:21 143:12	contain 142:10	94:11 95:20
competitors	125:7 129:16	consideration	content 45:9,15	110:4
57:23 96:9	concepts 121:6	19:16 77:7	132:6	contractors 8:6
complain 81:14	concern 106:15	121:3	context 11:2	28:8 53:25

55:25 70:11,18 74:24 76:11 99:18 100:19 122:21 contracts 17:12 17:15,23 28:11 28:17 47:12 50:6 51:25 52:5 56:1 58:17 59:9,10 73:9 74:7 141:22,25 142:1 contributor 67:10 control 13:2 73:14 79:6,13 79:21 81:12 134:4 controls 99:3,4 controversial 128:15 controversy 124:6 conversation 105:3 107:17 convince 124:24 126:11 135:20 135:20 COO 87:9 101:20 104:21 104:21,22 105:4 coordinated 64:5 COOs 104:18 105:1 copier 128:18 copy 31:20 130:16 cordial 137:1 core 117:24 corporate 17:25 104:19 corporation	1:11 4:14 52:1 62:19 75:10 132:3 corporations 62:19 corps 44:19 110:3 correct 13:20 103:25 116:4 136:6 145:13 correctly 135:15 137:7 143:9 COs 86:12 cost 4:18 22:19 23:2,7,9,9 30:19,24 31:1 31:3,6,12 32:3 32:14 37:4,4 37:14 41:22,24 42:5,14,19,23 43:1 44:13,14 44:16,16,20 45:8 46:13 48:15,19 54:18 57:13,21 59:24 59:25 63:3 78:20 79:10 81:16,20,21 82:9,10,12,16 82:21,22 83:8 83:12,17 84:5 86:6 89:14,18 91:8 96:23 103:6 110:24 111:12,19 113:21,23,25 114:8,21 115:1 117:6 121:24 122:7 124:13 134:25 135:4,5 135:7,22,23,23 136:13,13 140:25,25 142:8 143:2 144:2	costing 111:15 135:10 costs 28:17 43:3 43:13 57:1 114:19,24 115:9 116:11 134:15 135:17 142:10 cost-plus 116:4 140:20 141:25 cost-reimburs... 72:21 couch 17:10 council 26:3 count 116:24 counter 89:25 countries 97:15 97:23 country 10:1 14:10 24:2 57:11 58:8 61:15,19,22 62:24 63:14,25 106:16 107:5 107:20 139:8 148:24 couple 65:10 67:20 72:18 74:17 79:16 111:10 118:3 122:19 127:12 127:14 coupled 118:8 course 8:14 10:2 16:2 31:3 68:8 74:25 102:16 105:20 110:14 112:23 121:24 cover 67:25 covered 8:14,24 9:3 10:6 CPIF 82:20 cramming 43:23 crap 92:12 create 27:22	62:18,19 created 81:13,24 143:1 creative 77:2 creator 138:23 139:14 credit 43:6 128:20 creep 116:12,13 123:12 134:23 146:19 151:12 crime 112:12 114:6 criteria 50:14 84:22,25 85:4 85:5,10,10,11 85:19 88:10 140:22 145:16 145:18 critical 57:8 95:17 120:8,19 criticize 95:22 cross-fertilizat... 118:23 cross-matched 9:3 CRs 146:18 CSC 129:20 cultural 146:1 cup 150:15,16 current 27:21 52:16 92:8 128:12 132:7 134:8 currently 88:25 customer 48:6 51:14 97:6 103:5 109:19 126:11 131:12 customers 109:17 116:6 124:24 126:18 149:2 cut 60:18 cut-in 30:5	cycle 2:25 12:4 16:15 115:8 146:22 czar 101:15 103:3 C-17 4:15 C3I 70:4 <hr/> D <hr/> DAB 46:13 77:9 77:23 DABs 23:15 25:16 daily 41:9 damn 69:4 72:2 111:6 136:1 Dan 3:7 danger 96:19 141:10 DAPA 1:5 2:15 2:20 3:17 darn 51:3 100:7 112:4 DARPA 106:25 107:16 data 5:3 7:2 8:10 8:12 9:10,14 9:15,18 10:12 15:17 16:22,22 52:5 58:2 150:8 data-gathering 12:14 date 7:24 9:6,7 72:16 76:25 94:23 144:4 dates 73:11 daunting 7:4 Dave 4:2 21:6 day 4:23 5:13 34:22 36:7 44:2 45:20 48:20 62:2 75:20 80:7 150:2
---	--	---	--	--

days 9:15 17:16 39:25 71:25 75:5,20 80:19 84:2 121:14 133:5 136:18 139:24	11:12,13,16 12:17 14:22 16:25 30:2 32:12 43:17 58:25 59:12 64:21 69:5 91:18 99:10,20 109:6,8,11,16 109:20 112:20 113:1 129:13 129:22 138:9	8:1,19,24 demonstrate 72:1,9 91:9,10 123:14 127:19 138:5 demonstration 36:10 125:7 demos 122:18 126:6 127:2,24 150:1 Denver 111:14 deny 51:12 Department 11:11 12:17 14:8 16:9,25 30:2 67:6 85:9 109:11,16,20 115:16 129:13 depend 51:17 dependence 125:4 depends 58:6 115:25 140:14 depict 11:6 deploy 125:14 deployed 125:19 deploying 142:25 145:21 deputy 2:25 3:6 3:8,13,18 102:1 derived 14:12 described 119:23 126:6 description 11:5 design 31:24,25 62:16,17 126:22 designated 25:21 designed 19:20 117:6 desktops 130:19 destroy 76:14 77:4	detail 5:9 54:15 detailed 9:20 details 5:14 detect 59:17 determine 145:18 determined 96:2 114:16 develop 32:14 57:12 65:2 114:23 135:17 143:20 developed 34:18 35:5 70:17 71:13 110:6 developing 12:8 18:5 77:17 80:23 83:9 126:16,19 development 4:8 13:24 14:6 27:3 34:17 35:3 36:18 40:5 53:15 63:12 80:20 81:15 83:1 117:10 130:9 134:19 135:1 developments 117:6 devolving 57:21 diagram 12:3 14:15 dialogue 15:9 65:16 120:23 121:7 137:2,8 137:11,19 138:2 dialogues 137:14 Dick 13:21 34:14 difference 13:12 different 8:15 22:16 39:2	55:17 92:3 109:25 110:6 110:22 124:20 125:11 128:5 129:22 130:3 135:21 136:17 138:8 139:8 148:13,14 differently 37:20 56:14 95:5 difficult 8:21 15:24 22:15 23:4 46:9,9 56:14 69:2 96:18 106:9 112:5,23 113:18 117:16 133:19 145:4 difficultly 115:17 difficulty 120:1 123:10 diffuse 46:10 Dig 111:16 digit 109:14 digital 35:23,23 128:15 digits 54:3 diluted 26:16,18 dilution 102:20 dime 110:14 128:12 dimensions 41:11 direct 148:11 direction 43:7 46:12 53:19 103:10 141:21 directly 142:5 director 4:2 20:13 dirty 143:1 disagreeing 7:13 disappeared
---	--	---	--	--

72:5 74:23	distinction 5:7	122:21 125:2	driving 142:13	effective 21:2
disapproval	11:24 20:15	126:23 140:4	DRs 146:18	93:14 117:17
77:11	distinguished	149:6 152:3	due 31:4 76:3	effectively 20:10
disapproved	109:4	DOJ's 75:11	116:16	127:17 130:6
98:16	distributed	dollar 17:18	dumb 57:25	145:21
discipline 36:25	133:10	41:24 43:14	60:7	efficiency 28:12
37:15 43:25	diverse 9:21	78:24 82:9,10	duration 112:21	93:10
78:18 81:18	divide 95:16	82:12,12 90:8	115:19 147:23	efficient 59:10
89:15 106:6	division 64:17	90:8	149:3	126:23 127:22
116:22 117:7	68:21 78:12,12	dollars 20:8	durations	effort 8:7 9:10
119:20 132:19	78:14 85:23	43:9 46:12	148:24	11:20 13:16
132:19	86:19 103:4	50:8 82:3	dwindling 61:18	20:21 53:15
disciplined	104:3,4 105:8	90:21 91:4	89:11	60:23 135:10
42:19 44:20	105:11 107:12	107:1 111:12		efforts 16:19,24
82:14 90:25	divisions 68:20	domain 110:1	E	55:22
134:21 137:25	86:22 87:12	123:1 147:21	earlier 10:20	ego 62:13
disciplines	94:3 104:7,18	147:21	52:8 119:6	egos 43:15
147:16	105:4,5,18,21	domains 9:4	120:16,21	either 7:12 8:17
discover 22:15	documentation	26:11	123:13 133:15	16:19 19:5
22:16	119:22	Don 4:12 17:5	134:23 135:2	61:24 89:4
discrete 19:3,7	DOD 6:9 11:5	88:22 129:7	143:25 146:7	100:7 125:13
77:9	32:5 45:21	double 109:14	151:12	elaborate 17:6
discretion	62:5 69:1 71:5	double-hatted	early 14:15	elapses 127:1
115:16	74:6,13 75:11	101:13	21:21 35:25	elected 37:5
discuss 13:15	77:5,25 79:8,8	double-lined	39:10 133:17	146:4
14:5 15:7	80:19 83:2	101:13	148:4	electronics
discussed 14:20	84:8 87:23	doubt 112:7	earth 74:23	75:13,15
143:25	90:1,4 91:14	136:9 148:16	easier 43:2	element 52:13
discussing 13:21	92:25 93:10	downturn 59:13	easily 40:13	112:22 118:25
109:1	98:18,19 100:4	dozen 99:2	85:12 88:3,4	142:21
discussion 10:19	100:8 102:9	draft 120:13	easy 18:20,22	elements 11:7
10:20 16:16	107:10 136:25	dramatically	54:14 85:19	23:17 28:6
19:11,14 51:16	140:21	97:21,22	105:23	55:21 95:15
62:22 86:3	doing 10:10,11	draw 149:11	eat 61:24 89:21	elephant 21:13
discussions	10:15 13:8	drawings 31:25	eats 89:24	132:17
60:18,20,22	18:5 26:7	dribble 44:10	Ebbers 104:23	eligible 55:25
61:2	28:22 31:10	drill 45:24	economic 17:18	eliminate 76:6
disk 130:8,16	46:3 49:3,7	drive 38:8 60:6	112:24 117:15	eliminated
dismiss 51:16	57:16 58:10	62:14 114:24	edges 26:6	81:18
dispersed 119:7	62:4 64:1,14	115:4	edging 29:4	embedded 10:25
149:7	64:23,24 65:3	driven 23:8	education 24:12	72:15 76:13
display 76:18	82:13 89:20	59:24,24 86:14	26:18	emerging 69:2
disrupt 115:13	93:19 98:25	driver 145:15	EEW 124:2	69:13
disruption	116:22 119:16	drives 56:25	effect 11:21	emphasis 68:13
115:8	120:14 122:16	62:10 63:22	54:10	125:12

141:20	148:17	essentially 34:22	143:4	77:10
employed 32:6	enterprises	35:7,15	evolutionary	exist 136:8
employees 139:4	149:7	establish 59:25	30:3 34:17	existing 59:9
139:22	entertain 34:14	77:18,22 116:1	38:6,10	exists 120:9,24
enacted 119:20	53:8	established 68:6	EW 79:14	128:3
encompasses	entire 17:12	87:8 104:25	147:19	expect 6:25 54:7
14:9	19:5 20:6	120:20	exactly 13:20	102:25 106:10
encompassing	65:10	estimate 31:3,6	example 30:9	expectation
5:5	entirely 74:14	43:1,11 45:15	55:7 62:15	20:25 21:9,9
encourage	entity 12:11	135:8 136:1,11	82:20 83:18	expectations
128:11	entrepreneurial	136:13	85:12 86:6	23:3,6
encouraged	71:13	estimates 30:22	87:14 93:7	expected 35:22
53:19 146:2	entrepreneurs	45:3	96:20 100:3	128:14 143:3
encouraging	71:9	estimating 23:9	104:4 105:10	expecting 152:5
32:25	environment	30:19,24 42:19	106:25 107:5,5	expense 57:21
ended 69:22	10:3 55:21	42:24 44:20	122:25 127:20	expensive 42:6
111:15	72:4 116:3,4	135:22	127:20 129:11	experience
endorse 143:14	116:11 120:24	estimation 42:6	130:6 151:1	12:23 15:20
enemy 29:23	126:15 132:6	et 76:14 107:11	examples 71:2	24:9 49:9 50:4
enforce 95:5	137:23	107:11	93:14 117:13	60:17 145:10
engine 35:6,6,7	environments	ethics 31:18,19	124:18	150:8
35:10,15,16	13:25	Europe 75:2	exceeded 111:1	experiment
37:3 48:18	envision 41:11	evaluate 95:2	excellence 4:1	29:17
63:19 151:18	EP3 86:17	evaluates 85:25	24:12	experimentati...
engineer 116:18	equal 14:17 71:5	evaluating	excellent 26:8	32:25 53:16,17
130:7	equally 14:18	123:18 145:15	109:16	53:18
engineering	125:1	evaluation 29:16	exception 86:13	expertise 24:12
27:19 30:14	equation 94:24	29:18 85:25	exceptions 64:10	64:20 93:22
40:15 55:24	equipment	141:2	77:12	145:14,18
56:4 58:13	111:7 121:23	everybody 17:15	excess 56:23	experts 24:17
62:13 93:22	140:11	18:21 37:25	exchange 7:18	91:18,18
119:1 127:10	equipped	57:25 60:25	exclusively	expire 50:9
131:25	122:10	61:4 72:18	129:1	explain 13:20
engineers 41:5	equity 107:14	73:18 78:13	execute 40:24	40:17
136:7	equivalent	80:10 98:4	150:11	explainable
engines 37:7	101:21	99:10 110:22	execution 11:15	40:13
England 22:18	equivalents	123:8 130:24	23:1,2 40:21	explained 40:14
England's 11:1	18:15	134:12,13	41:12 79:18	explaining
13:9	erosion 17:24	everybody's	92:15,23 93:15	129:18
enhancement	especially 12:11	35:21 43:23	123:11	explanation
33:1	56:3 57:3	88:5 99:11	executive 3:5	13:11
enjoy 109:15	65:11 143:11	113:16	26:11 27:1	exporter 138:22
ensure 52:17,19	essay 7:15,19	everyone's 7:5	101:3	exposure 15:14
enter 77:18	essential 16:11	108:14	executives 49:16	148:6
enterprise	76:13	evidence 122:13	exercise 9:16,20	extend 120:14

extensive 148:2	fall 13:14 43:1	50:16 57:14	financial 50:10	five 9:15 41:25
extent 43:16,19	familiar 5:1	130:11 140:25	50:20	54:5 74:20
49:14 60:11	109:7 119:4	feed 62:13	financially	75:1 76:8,11
115:14 144:1	132:3 145:11	128:21	103:8	93:7 97:2
extenuating	families 148:25	feeds 78:14	find 15:14 33:2	100:10
84:25	149:7	feel 131:1 134:2	46:4,6 52:2	fix 23:23 26:13
extra 119:20	fancy 31:3	135:9	85:7 88:20	30:20,25 42:5
extreme 136:5	far 9:1,23 18:14	fees 48:9 49:10	103:23 104:6	42:10 48:24
extremely 15:23	47:19 53:6,8	49:11,15,17	106:6 107:1	53:1
83:13 109:21	73:11 89:17,25	50:1,10,15	135:8 141:15	fixed 25:19
eye 138:10	90:4 94:7	116:5 130:11	145:23 149:3	48:10,15 81:15
	96:14,17 97:17	fellow 3:4	150:5	81:25 83:19
	98:22 99:7,19	felt 52:14	finding 43:10	89:14 90:13
	129:21,25	fewer 112:8	46:17	91:7,10 117:3
F	Farrell 5:17	114:1	fine 2:22 72:13	117:4 120:3
F 39:18,19	15:6 21:15,18	fiction 125:4	88:5 95:22	137:12 140:21
face 61:6,6,25	21:22 22:7	field 10:13 17:19	finger 27:2	141:4,25 142:7
74:23 112:5,16	34:12 35:2	17:21 22:12	39:22	142:11
115:22	38:12 39:16	23:21 26:19,20	finished 7:20	fixed-price
faced 70:24	41:14 43:21	27:7,11 32:8	55:16 107:17	72:24 89:19
face-to-face 9:25	44:9 45:19	76:17	124:22	142:16
60:20,22 61:2	47:22 49:17	fielding 18:6	fire 79:13 80:1	fixing 23:16
facilities 57:10	50:24 51:21	fight 53:3,5	103:24,25	flawed 132:24
57:11 111:17	52:23 54:13	140:8	149:11,12,12	fleet 39:20
facility 48:18	56:9 58:6	fighter 31:1,5	149:14,15	flew 35:25 36:1
57:15	60:13,16 62:25	34:22 35:10	fires 149:13	flexible 110:13
facing 67:18	65:19	36:7 80:17	firewall 76:20	flight 139:2
fact 12:12,23	far-term 53:13	117:17 121:18	85:24 86:21	147:19
14:4,21 15:15	fast 9:18	121:25 137:21	firewalls 72:11	flip 75:3
17:22 34:23	faster 127:23	fighters 35:5	89:8	floor 15:2 20:4
51:12,16 54:11	fault 86:7 92:11	58:11 59:23	firm 48:10	64:8 65:7
73:22 92:18	106:2	149:11,12,15	firms 8:2 114:11	flow 90:19
109:13 118:3,8	favor 42:12 75:8	fighting 149:12	first 2:24 3:9	flown 35:7
118:15 130:15	favorite 117:18	149:13	4:25 9:3 14:15	flows 91:4
143:3	FBI 82:5,8	figure 39:15	16:8 20:3	flow-down
factor 85:7	FCS 73:9 135:6	43:14	22:14 34:22,23	75:25 76:2,5
114:9	fearful 89:6	figures 8:11	38:3,9 40:16	fly 36:13 128:6
failed 28:3 47:13	feasibility 124:9	fill 74:2	63:15 80:12	fly-by-wire
47:21	feasible 124:25	filling 52:4	92:19 93:13	35:12,14,16
failure 23:3 84:3	124:25	final 18:8 26:6	127:4,15 134:7	focus 17:3 23:19
fair 17:4 24:1	fed 143:4	60:9 99:15	134:10 138:20	53:7
32:19 71:23	federal 17:12	150:7	148:20	focused 9:4 53:2
89:7	fee 48:10,15,16	finalize 60:18	firsthand 45:6	69:25
fairly 7:4 9:19	48:16,19,19,22	finally 81:5,16	fit 68:12	fold 129:14
9:20,24 61:15	49:1,21 50:5	82:11 107:2	fits 10:9 60:3	folks 2:24 19:8
72:10 86:23				
faith 73:2				

118:16 131:9 141:3 follow 6:5 13:14 31:14,19 32:1 57:19 followed 5:24 28:20 122:18 follows 77:21 follow-up 133:22 force 3:15 4:1 6:21 13:25 17:23 22:1,11 25:23 33:2,8,9 33:20 44:23 45:5 46:20,21 48:17,18 63:8 73:21 93:23 106:4 113:23 124:7 144:14 146:3 forced 57:24 98:3 124:8 139:16 142:15 146:13 forces 37:24 50:10 52:24,25 119:20 123:13 146:8 Ford 69:10 foreign 32:11,17 138:9 139:9 foreseeable 143:17 forest 119:17 145:7 forget 76:1 forgetting 98:11 form 20:22 69:12 78:1 95:1 117:24 118:20 128:12 130:8 133:18 152:1 formal 19:21	77:12 108:19 formality 22:5 formalized 146:3 formally 19:12 former 4:11,13 4:14 12:23 22:1 forms 142:19 148:1 formula 82:23 Fort 49:25 forth 14:2 149:5 fortunately 120:4 forum 19:14 62:4 108:25 forums 10:11 19:6 forward 6:6 21:23 32:10 42:7,20 67:7 67:19 121:22 126:2 129:17 141:8 foster 3:16 62:5 62:7,7 77:20 found 15:21 50:7 107:13 119:21 foundry 107:14 107:14 four 54:4 55:11 70:10 87:8 88:14,16 109:23 115:9 127:2 fourth 143:11 fragmented 68:25 frame 21:10 69:1 frames 38:25 framework 32:5 67:12	France 96:17 97:16 franchise 75:11 Frank 4:7 5:21 67:5,8 84:17 84:20 89:3 108:4 112:11 128:6 131:5 frankly 20:20 62:23 112:7 113:10 114:4 118:21 130:3 139:18 141:8 141:10 145:19 Frank's 142:2 fraud 52:10 free 44:11 freely 81:22,22 free-wheeling 28:15 frequently 18:21 111:13 116:9 122:19 142:5,6 147:13 friends 114:4 front 4:7 13:23 14:5 30:15 33:6 41:23 42:6,14 123:7 135:5 139:17 fulfill 116:10 120:22 131:19 132:12 full 3:17 124:22 fully 111:2 115:18 126:7 146:20 150:14 function 23:11 104:9 135:11 functional 9:20 103:15 135:13 functionality 135:12 fund 46:1 50:8 fundamental	11:5 fundamentally 54:12 132:24 funded 64:3 115:18 126:7 126:10,12 funding 12:22 40:23 50:7,19 64:4 82:2 115:8,15 funds 126:20 further 17:13 76:7 112:22 115:8 120:15 future 54:22 59:2 62:5 74:8 132:7 135:11 143:17 F-111 35:17 84:2 F-15 35:7 38:7 F-16 30:1,5,10 34:15,21 35:3 35:25 36:1 134:10 F-16s 36:7 F-22 37:2,2,4 38:6 73:13 78:15,22 135:12 136:20 F-22s 44:5,6 F-4 36:2,6 F-4s 36:1,6 F-86 39:18	gathering 4:24 5:3 10:11,12 15:17 20:16 67:14 GD 59:1 general 4:8,10 6:18 11:18 16:1 22:3 33:11,18 34:6 34:7 37:22 40:1 64:6 67:16 84:14 88:13 106:12 126:17 144:10 generalize 139:8 generally 120:24 127:13 129:8 141:23 142:19 142:20 147:22 148:19 149:9 150:3 generic 106:11 geographically 149:6 German 64:8 Germany 96:17 98:24 getting 5:12 9:13 18:25 29:7 33:6 49:14 69:5 89:6 112:5 118:10 134:4,7 142:13 get-go 43:5,14 gigabillions 134:2 Girl 41:4 give 5:4,18,21 6:23 7:11 17:6 35:12 39:3 41:6,6 42:11 49:11 50:16 54:17 68:18 79:8 90:14
--	---	---	--	--

95:3,11 102:15	86:7,15 87:13	67:25 71:16	41:14 46:7	85:4,22 86:2,7
115:15 116:25	89:17,18,25	73:5 74:6,7	47:4,5 52:3	86:25 87:4,16
119:10 120:10	90:5 91:14,19	78:16 82:9,10	53:13,15 54:13	87:19,20,22
128:20,24	93:6,8 95:2,18	82:11,12,15,17	54:17,19 59:5	88:1 89:16
129:1 131:17	96:15,24 97:16	82:21,22,24	62:25 63:4	90:20 93:19
144:15	97:16 98:23,23	83:11,21 87:1	64:1 65:21	104:8 107:15
given 16:17	99:7 101:6	87:5 88:16	73:2 80:22	107:25 113:20
22:24 25:7	104:9,20	89:14 90:6,25	85:10,23 90:23	114:5,25 117:4
37:9 43:5	105:21 107:3	91:3,3,19,20	94:18 99:16	117:19,20
45:21,21 54:9	114:19,19	93:5,9,12,16	101:10 102:7	119:7 120:9
86:4 95:20	123:22 129:11	94:10,13 95:20	102:14,19	121:4,24
103:17 121:3	140:13 141:4	97:1,10,12	111:6 112:4	123:17 125:21
gives 40:25	143:3 146:23	99:11,16 100:5	113:6,22 117:9	126:7,12
100:7 108:5	149:4 150:8	100:12 101:11	118:5 120:6,7	128:22 133:6
141:1	151:15	103:23 106:15	122:15,24	133:14 134:17
giving 43:5 88:1	God 90:22	107:19 113:3,9	123:8 124:8	135:4 136:8
98:11 125:22	goes 43:25 48:5	117:3,8 121:22	127:20 129:11	137:24 139:20
127:10	51:23 61:12	125:17 127:3	130:10,17	142:6,17
gladly 119:21	71:16 75:19	129:14 130:5	132:8,8,9,10	145:20 150:3
glasses 128:2	85:20 91:15	130:12,25	135:4 136:18	governments
global 32:12	100:25 139:6	131:19 132:22	137:24 138:21	140:16
61:11,15 123:4	going 6:23 7:17	134:1,11,11,25	138:22 140:1,3	government's
138:21	7:18 8:13,20	135:12 137:12	141:9,23	86:5 112:9
globalized	9:1,11,12,14	137:16,20	142:13,13	131:18
138:14	9:15 10:4	138:2 139:11	151:25	GPS 71:12
glossed 54:15	13:25 14:1	140:4 141:2,5	Gordon 10:25	107:3
go 4:17 5:9 6:2	15:11 17:15,17	141:13 143:16	gorillas 74:20	grab 41:1
10:14 12:10	19:10,15,21	144:7,23	gotten 73:7 84:7	granted 124:22
15:12 19:1,24	20:5,9,11,23	146:12,13,14	97:1 134:15,17	grasping 7:4
28:5 29:16	22:4 24:20,22	148:6,13,14	134:18	great 17:11
32:10 38:24	25:7 26:23	149:20 152:6,8	government	29:19 32:4
40:24 41:1,10	28:6,15,25	Goldwater	6:22 7:25 8:17	68:13 71:8,14
41:24 42:7	29:4,4,14,25	24:23,25	10:15 17:13	89:20 90:19
43:7 46:1,17	30:10 31:6	Goldwater-Ni...	18:20 47:9,25	91:12,13
47:23 48:2	34:10,24 36:15	12:12 25:2	48:4,5,11 49:4	100:20 104:4
49:19,22,23	37:4 38:4,20	39:8,12 52:13	49:4,6,7,10,20	107:5 115:16
52:7 57:2	43:8 44:5,13	101:2	51:2,9,13,18	115:17 117:19
62:21 64:6,9	44:14 48:4	good 4:21 20:21	51:20,24 52:3	118:17 120:13
65:16 69:3,8	50:25 53:4	22:23 24:5,6	56:25 60:7,24	129:17,24
69:10 70:15	54:17,24 55:1	24:21 25:3,4	63:2 64:5	130:6,10
74:17 75:4	55:3,9 56:7	28:15,16,17,17	70:15,16 71:6	141:14 144:24
76:12 77:2,4	58:17 59:13,16	29:23 30:9,11	71:16 72:10,14	151:16
78:1,19,25	59:17,20 61:15	31:7,14 32:2,7	73:16 74:25	greater 35:12
80:13,23,25	61:24 63:11,12	32:13 34:1,5	76:21 79:4	112:10
82:5,7 83:19	63:16 64:17	38:4,5,7 39:25	83:8,12 84:6	Greenville 86:20

grey 145:12,13 151:22	58:10 79:24 102:3 103:24 105:12 128:17	91:11 136:11 146:19 150:18 151:5	124:1 134:18	holding 40:22 48:12
grip 135:4	guys 38:13	happy 28:10	held 25:21 79:23	hole 41:18
grips 112:24	48:23 49:25	hard 22:21 25:6	helicopter 55:1	home 63:17
grocery 98:24	51:5 55:3 78:7	27:5 32:16	55:2,4	115:4 116:11
ground 2:5	78:8 80:22	36:23 37:2	hell 78:13 91:16	honest 46:8
groundwork	82:8 91:18	38:5 56:11	95:23 127:3	87:17 102:5
68:1	105:7 129:19	105:22 129:18	Hello 144:13	137:7,19
group 4:6 70:2		142:3	hell's 91:2	Honestly 88:3
74:20 75:14,14	H	harder 34:19	help 3:11 43:20	Honeywell
75:15,17 87:2	hair 145:13	37:8 38:9,10	64:20 80:25	107:7
105:7 107:8	hairs 145:12	38:20	85:9 94:20	honor 22:7,8
126:23 150:23	151:22	hardship 148:25	95:12,13	hope 2:3 19:19
grouped 104:18	half 56:21,22	Harrier 139:11	103:24 105:12	30:13
119:8	68:18 80:4,5	Harriers 139:13	106:7 107:15	hopefully 4:18
groups 45:13	92:24 93:9	Harris 70:6	108:20 118:24	88:19 113:6
146:12	99:2 101:12	hate 130:1	123:25 124:3	120:23 125:10
grow 59:10	102:10 126:12	haul 18:2	135:20 137:8,9	125:12 140:1
78:13 150:16	128:13	Hawk 123:4	helpful 125:8	148:7 151:7
growing 59:11	Hamre 128:20	Hawley 4:10	helping 97:20	hoping 126:4
78:12 97:21	hand 21:13	13:22 20:3	hey 36:15 72:19	Hopps 3:5
grown 69:21	51:15 84:22	34:15 38:2	79:3 107:16	horrible 120:1
109:12	101:24 117:5	40:1 44:8,25	high 29:5 73:1	hot 7:21 88:12
growth 89:20	117:16 126:21	57:19 140:19	81:4 83:10,13	150:17
91:12 109:14	138:6	Hayes 3:3	83:14 93:2	hotbed 64:19
110:25	handle 134:4,6	headquartered	112:25 148:4	hour 15:5 122:5
Grumman	135:7 150:17	109:9,18	higher 63:6	house 78:17
123:4	150:17	health 18:12	114:3 121:24	house 78:17
GSA 28:2	hands 81:2	99:20	137:16 146:10	huge 138:17
GSF 88:7	102:1 105:7	healthy 18:9	146:10 147:12	huh 38:1
guarantee 127:2	hands-on 80:8	54:16 62:18	highly 70:12	human 34:8
133:15	102:13	132:5	88:17 106:23	78:17
guess 17:11,14	Hanscom	hear 2:17 13:14	119:7 133:4	humanistic
22:2 38:2 47:4	145:11	40:11 79:23	137:20	49:13
52:18 101:7	happen 64:20	101:21 126:4	high-level 87:1	hundreds 107:1
guidance 25:10	81:20 87:5	136:10	high-risk 81:15	Huntsville 145:1
25:11 45:9	128:19 147:19	heard 38:24	82:25	hurt 83:15
guide 23:22	150:16	63:15 81:1	Hill 27:22	hurting 43:20
guidelines 28:19	happened 54:6	129:9	hire 105:23	hurts 83:23,23
90:15	69:9 74:18	hearing 21:23	historically 89:3	149:17
gun 151:2,3,8,14	76:10 99:24	67:8,13,13	history 117:9	hydraulic 35:17
151:15	happening 73:6	110:8	141:4	I
guns 120:18	happens 29:1	hearings 5:13	hit 34:2 42:11	IA 61:13
gurus 146:14	78:11 88:11	heck 18:23 41:7	hold 27:4 29:24	ICIC 73:10
guy 37:13 38:19			47:13 49:2,7	idea 5:5 85:10
			59:9 101:24	

92:7 100:23 101:10 120:13 122:15 123:8 ideas 20:21 29:19 62:9 113:12 122:23 122:24 124:8 129:17 131:11 141:8,11,13 144:15 146:6,7 identify 8:13 148:3 IEDs 117:12 ignore 54:11 ignored 76:25 81:6 II 25:1,2 Imagine 131:15 immediate 52:22 53:14 immediately 105:11 impact 14:8 31:12 88:15,17 112:20 impediment 144:5 impetus 143:2 implement 113:18 137:13 implementation 82:14 implemented 25:4,5 80:9 137:11 implements 83:2 implications 51:6 96:8 138:8 importance 14:18 26:19 important 2:15 2:20 6:7 10:22 11:1,19 14:10 15:21 23:17	24:8,10 36:24 37:10 50:5 51:4,5 54:20 55:21 65:12,17 71:18 76:15 79:17 80:17 81:8 88:18 90:11 98:10,12 99:2 121:2 152:3 impose 73:4,9 143:7 impossible 61:3 impression 14:17 16:18 20:5,11 improve 77:11 improved 7:16 improvement 36:5 improving 27:6 inappropriate 142:14 inaudible 3:9 77:19 incentive 39:14 45:4,17 48:16 89:14 90:15 140:22 141:1 incentives 39:4 45:7,11 89:19 140:20 incentivized 122:7 incentivizes 45:14 incentivizing 141:3 include 8:24 9:8 21:3,4 included 16:18 includes 12:16 incorrectly 25:5 increase 59:18 137:3	increased 121:24 increasingly 117:21 incredible 79:15 incumbent 129:1 independence 145:6 146:11 independent 4:10 75:16 95:11 107:13 113:23 119:14 120:8 136:9 137:25 141:2 146:8 148:11 148:20 indicated 9:12 indications 138:15 indigenous 109:14 individual 2:22 108:19 125:22 125:23 individually 133:12 individuals 5:2 9:22 induction 93:7 industrial 53:23 53:25 54:3,9 56:10,23 57:2 57:5,7,9,16,19 58:12 59:8 60:12 64:2 65:20 96:6,8 97:19 121:11 129:22 131:23 138:12 industries 138:10 industry 4:11 5:12,15,19 6:8 7:25 8:2,17	10:14 18:11,20 19:8 22:9 28:5 28:24 32:12,20 33:15 35:1 47:12,13,17 48:3,5,12 49:2 49:5,15 51:1,1 51:12,15,17 54:11,23 55:18 56:24 58:7 59:16 60:18,24 61:6 62:3,14 62:21 63:1,2 67:9 69:5 75:20 81:14,22 82:19 85:8,15 88:10 89:11,16 90:24 92:5,7 92:14 93:15 96:1,11,15 102:6 106:13 111:5,21 113:20 114:2,9 114:25 116:25 118:16,20 120:12 125:1 125:17 126:16 127:15 131:2 134:3,6,17 135:3 136:25 138:14,24 industry's 47:11 47:20 49:14 92:11 112:10 inevitable 54:24 inevitably 117:14 139:12 inextricably 121:12 infinite 112:7 infinitum 62:20 inflation 31:4 influential 112:14 information	4:23 10:5,11 18:25 20:16 21:10 28:2 67:14 108:6 109:24 119:9 information-g... 21:4 informative 2:3 inherent 132:4 132:13,16 135:1 innovation 62:8 62:9 77:2 128:13 129:14 innovative 55:13 122:22 141:11 input 61:13 81:4 inputs 19:18 48:23 inquisition 143:6 insert 77:8 inside 62:18 insight 37:25 77:18 insignificant 146:20 instability 15:25 instance 126:13 instances 124:20 143:20 144:9 insufficient 28:7 30:16 integrated 35:15 54:5 68:10 70:13,19 71:17 132:1 133:5 integrating 70:11 integration 3:1 75:13 76:3,6 76:13 84:9 86:19,21 134:3 integrator 75:19 81:10 93:25
---	--	--	---	---

94:2,6,20 131:23 integrators 100:17 intellectual 62:14 intelligent 137:25 intend 13:13 18:25 intended 15:7 18:14 intentions 99:17 interaction 50:11,14 133:6 interactions 19:6 interactive 133:8 intercompany 105:18 interest 17:10 68:2 132:1,5 140:10 interested 15:23 17:17 45:6 47:9 60:10 67:11 interesting 5:23 12:5 55:15 56:17 59:15,20 65:23 75:4 89:16 119:23 131:16 interfere 72:20 internal 85:8 international 97:20 110:1 139:1 internationally 97:20 interoperability 143:15 interpret 137:18 137:19	intersecting 11:8,16 intersection 11:20 interview 4:25 6:16,22 7:1,3,3 7:7,17,20 8:14 9:11,24 15:13 interviewed 7:11 interviewee 8:23 interviewees 7:4 7:9 interviewer 7:6 7:21 interviewing 5:2 9:21 interviews 7:23 9:25 intractable 115:21 intrigues 17:22 introduce 2:14 2:23 4:3 54:7 introduction 21:24 67:9 108:17 109:7 112:3 introductions 2:6 invaluable 3:17 invent 128:18,18 invented 71:9 invest 106:18,18 127:16 128:22 invested 106:25 investing 106:13 investment 96:14 99:6,21 106:25 126:8 128:25 138:9 invite 19:25 62:21 invited 84:16 involved 5:16	8:4 19:5 29:20 33:6 37:21 79:21 87:3 123:8 126:8 involvement 33:22 96:25 in-house 17:24 71:1 72:3 85:17 89:4 IP 97:10 IPO 69:4 IR 97:14 Iraq 29:20 isolation 14:20 Israel 97:9 Israeli 96:23 issue 21:11 39:16 50:5 52:10 57:20 60:1 76:17 89:10 92:4 100:25 138:14 148:12 issued 71:21 issues 6:3 13:15 15:2,9 19:11 20:7,9,16 21:1 21:10,24 22:10 26:7 29:9 50:21 61:25 67:6 96:10 115:20 119:3 124:6 127:14 134:22 136:23 138:18 149:8 ITAR 96:10,19 99:9 itch 38:2 item 40:16 77:9 items 43:1 57:6 57:8 iterating 33:6 iteration 33:13 33:17 37:22 iterative 9:12	ITT 70:7 <hr/> J <hr/> jail 104:24 Japanese 64:8 jargon 13:15 JCIDS 24:25 jeopardy 77:1 97:19 jet 33:10,23 jets 33:16 Jiffy 53:17 job 22:10,15 31:7 41:13 46:7 53:13 111:6 112:4 113:20,23,25 114:9,15 130:10 147:11 148:7 149:14 jobs 32:22 112:1 138:23 139:14 Joe 33:11 jog 116:16 John 3:13 128:20 joint 8:6 11:17 29:15,15 32:25 33:1 53:18 76:9 92:13 JPAT 33:25 JPATs 33:9 JSF 73:13 78:22 84:21 85:12 122:24 124:6 127:20 128:5 136:20 judgement 133:18 135:14 judging 135:16 judgment 5:8 Judy 144:14 Julie 3:18 jump 50:4 Justice 107:10	justifying 80:6 101:22 <hr/> K <hr/> Kadish 4:5,17 4:21 6:15,18 10:8,18 14:4 15:1,4 16:5,17 18:24 20:15 21:8,20 34:10 34:13 38:23 40:19 47:7 50:3 51:7 53:23 57:18 61:10 65:6,9 65:23 67:3,23 74:16 75:3 84:16,19 88:22 92:2 93:18 95:4 96:5 100:22 102:22 108:1,4,8,12 108:14 110:18 126:3 129:9 131:14 138:7 140:18 142:23 144:12 147:4 150:7,20 151:9 151:24 152:4,8 keep 13:1 18:22 28:18 40:4 41:14 43:15 51:4 63:1 78:16 82:22 95:14 134:11 147:6 keeping 126:23 keeps 116:5 key 2:17 5:2,3 11:7 50:22 75:6 106:10 111:1 kick 46:5 90:19 kill 42:15,21 killed 42:16
---	--	--	---	--

kind 10:2 12:20 14:1,2 18:5,17 22:12,20 26:9 33:14 34:19 44:17 51:23 53:6 54:14 55:12 56:17 57:24 60:5 64:19 65:15 67:12 69:6 70:10 77:3,25 87:20 101:6 125:3 126:23 127:6 129:14 132:20 137:22 138:10 140:22	132:11,14 134:7 136:1,5 136:8 139:13 140:17 141:11 141:13 142:2,4 146:17 148:10	103:1,16,20 105:17 106:17 108:3,7,10 large 21:25 51:2 52:24 71:10,12 76:12 82:4 114:11 130:21 139:3,3 140:2 146:13 149:6	LCDs 107:1 LCS 73:13 78:21 lead 7:6 30:16 64:16 94:4,4,5 131:23 leaders 5:15 leadership 23:14 61:23 118:9 leads 145:16 learned 118:10 136:21 leave 20:11 62:2 85:6 117:25 leaving 20:5 113:16 left 4:9,12 45:24 70:1,5 107:7 legal 22:22 50:17 legislated 74:13 legislating 43:18 legitimate 99:4 length 51:19 75:18 lesson 36:22 lessons 118:10 letter 22:20 77:16 104:1,2 104:17 105:9 let's 21:15,17 29:20 34:13 36:13,15 44:4 44:4 51:25 58:17 63:5 69:11,12,17 104:9 110:11 113:7,14 130:5 136:14 144:19 144:21 151:15	91:1 98:15 100:6 104:13 119:20 129:16 134:14 147:12 147:16 148:3 150:21 levels 25:18 50:23 73:1 100:14 119:4 Lexington 86:20 LHD-8 3:9 license 97:3 licensing 96:9 97:24 lie 111:25 Lieutenant 3:16 22:2 life 2:25 12:4 16:15 146:22 light 60:12 128:19 lightweight 110:2 like-minded 121:15 limit 55:23 58:15,21 limitations 50:7 limited 60:17 75:24 114:5 122:25 135:19 137:9 141:20 limiting 56:2 limits 28:12,13 28:13,18,22 line 9:10,23 45:21,23,25 60:9 92:3 103:9,12,15 126:14 130:7 lines 19:2 20:1 31:12 80:8,15 101:14 121:23 130:8 133:25 134:9 135:6
kindly 74:19 kinds 17:25 40:13 48:9 52:25 53:8 56:4 132:15 137:4 148:23 knew 47:22 93:11 know 11:23 14:14 18:1,1 25:8 26:13 30:20,24,25 34:1 35:3 42:16 44:1,5 44:24 46:13,14 52:1 56:13 57:3,6 58:2,7 59:6 61:16,25 62:1 63:3,7 65:9 73:11,24 75:6 78:11 87:16 88:7 90:17 93:11,11 97:10 101:18 104:24 111:16 115:1,6,9 118:2 121:9 123:4,24 124:5 128:6,17	knowledge 118:11,12 145:23 147:15 147:21 148:6 knowledgeable 119:5 knows 124:1 133:2 149:20 Kodak 128:16 Kozlowski 4:12 17:6 40:20 56:5 61:11 88:23 89:10 98:17 102:23 103:14,17 105:15 106:11 126:6,14 133:22 KPPs 46:23	largely 143:19 larger 18:3 108:1 112:8,13 114:1 131:4 133:19 147:22 148:17 largest 75:8 99:10 109:8,11 109:19 Larry 5:17 21:22 22:2,6 34:7,7,10,15 38:23 42:23 45:1 49:9 57:20 59:21 65:9 lastly 79:16 115:14 late 95:3 108:15 111:16 143:1 latest 18:22 116:19 140:10 151:14 Laughter 3:20 3:22 91:23 92:1 110:20 144:22 150:19 152:7 launch 93:13 launched 115:18 launching 115:18 law 81:3 125:14 lay 68:1 laying 42:2 lays 46:22,23	L L 69:17 145:19 labor 7:25 15:18 labs 80:20,20 93:10 94:24 104:8 lack 43:25 118:9 lacking 60:5 land 137:22 language 77:8 85:3 Lanza 5:21 67:5 67:25 74:17 75:4 84:18 85:11,15 88:12 89:9,23 91:24 92:10 93:21 95:8 96:13 98:19 101:10	

142:24 146:25	62:1 67:9 78:8	29:9 53:4 57:4	97:22 98:12,13	L-3's 86:22
link 53:14	103:19 108:20	67:7 111:23	98:14,20	<hr/> M <hr/>
linked 121:12	118:9,12	126:21 141:11	116:17,19	M 145:19
liquidation 69:6	121:23 123:11	looks 128:3	117:9,18 118:2	machine 64:13
list 58:20	147:5,6	loop 80:25	119:1 120:6	64:24 67:21,24
listen 21:10	longer 18:13	Loral 68:7,8,9	123:24 127:3	machines 64:8,9
145:24	70:21 72:6	68:16 69:10	127:19,23,25	64:12,12,15
listening 4:24	73:16 100:21	71:25 75:4,11	130:8 134:7,18	65:2
literally 40:25	112:16 123:18	lose 78:6 91:20	143:1,23	Machining
41:13 126:16	147:23 149:25	111:5,23	144:24 145:20	64:22
literature 12:14	longevity 17:24	lost 96:20,21	lots 24:15 25:19	magic 83:14
45:2 52:11	long-term 18:18	99:2 102:9	56:17 57:15	magnet 83:9
little 5:8 8:20	52:21	145:11	58:13	93:5,9
10:20 11:25	look 6:6 9:14	lot 12:13 17:22	love 62:8,9	magnitude 36:5
12:15,19 13:2	13:7 16:20	18:13 23:8	low 78:20	maintain 16:1,2
13:4,15 15:8	19:21 21:12,14	24:23 25:8,10	lowball 45:14	61:22 77:10
16:12,16,18	21:23 22:21	25:11,13 26:5	lower 54:21	122:6 144:3
17:7 20:4	23:7 25:6,9	27:8 29:15	59:19 137:15	maintainers
31:15 44:25	26:22,25 27:5	30:14,21 31:9	148:2	94:14
46:2,3 48:25	27:8 30:1,13	31:11,18 32:13	low-cost 29:6	maintaining
57:2,5 68:2	30:23,25 31:5	33:9,15,25	106:14	96:8
78:23 90:13	32:16 33:8	34:21 35:16	LSI 70:16,19	maintenance
92:3 94:25	35:17 36:23	36:1,12,18,20	71:17 72:8	16:13,15,24
107:15 108:15	37:2 39:17,20	37:3,8,15,20	75:24 76:3	major 3:18 5:10
108:17 110:12	40:2 44:3	38:20 40:7,8	81:9,11 82:2	8:2 15:17
124:3 139:8	46:19 49:24,25	40:16 41:21	84:5 87:18,19	16:11,13,15
151:7,18,23	50:22 51:9,25	42:24 43:2,24	87:24,25 88:16	17:1 20:24
littoral 122:23	56:11,16 57:2	44:5,21 45:11	93:18,19 94:13	26:1 31:16,22
lobby 78:16	67:19 70:4,6	45:13,15 48:5	94:18 95:5,9	33:22 47:15
lobbying 80:11	73:12 79:3	48:7 49:23	95:10,11,12,13	54:4 68:22
locations 134:14	80:23 81:17	51:8 52:10,11	95:25 121:6	70:3,18 72:11
lock 145:3	86:15 87:21	53:18 54:19,21	131:14,15,23	73:10,12 75:10
Lockheed 4:9	88:15 89:11	55:17,22 56:18	lumped 136:24	78:1,21 79:12
56:12 68:7,8,9	90:21 95:8,9	56:23,25 57:3	lumping 132:23	81:8 83:1,7
68:11,14,17	96:11 102:6	57:10 59:12,16	lumps 136:21	84:1 86:12
75:12,16	123:1,10 126:1	60:17,23,23,25	lunch 5:20 44:11	88:17 93:23
129:19	128:13 129:22	62:10,15 63:11	61:24 66:2	95:10,14 96:13
logic 132:24	138:24 139:1	64:8,11,12,23	L-3 5:21 67:5,10	96:21,22 98:13
logistics 3:2	looked 24:23	65:19 70:7,8	68:1,6 70:7	99:18 104:4,16
16:15 19:17	37:8 56:14	72:17 73:14	71:4 80:11	114:20 116:5
22:12 32:15	64:16 72:2	75:23 77:3,13	84:10 86:15,18	118:7 120:2
94:14	86:17 121:10	79:5 81:20	87:7,12 88:13	123:16 133:3,9
long 4:23 16:19	133:18	82:19 83:3	88:15,17 94:4	133:11 142:21
18:2 25:23	looking 17:8	85:18 92:5,11	104:19 105:17	majors 78:22
50:8 61:14	18:19 22:16	92:16 93:13,22	106:12 129:19	

maker 128:18	105:16,22	Martin 4:9	102:2	130:13
make-buy 85:11	107:4 109:23	129:19	mechanism	middle 117:15
88:9,9	managing 27:12	mass 14:18	40:25	142:1 148:2
make-or-buy	105:13 112:8	massive 68:22	meeting 1:7 4:16	mid-æ80s 52:9
72:1,9 77:8,23	116:20	68:24 83:22	67:3,14 105:2	Mike 6:16,19
85:10	maneuverabili...	90:2	110:16 152:11	mil 142:25 143:2
making 20:23	37:10	material 29:21	meetings 42:2	143:5,10
82:13,16,18	maneuverable	materials 8:5	meets 50:14	milestone 24:11
83:16 84:23	37:3,7	matter 19:16	meltdown 69:1	30:4,8
103:25 104:11	mania 56:6	23:1,2 24:11	members 13:19	military 71:5
111:11 117:16	manifest 110:24	24:15,16 89:7	16:5 17:8	73:16,19 77:14
117:22 144:16	manner 2:11	100:3 127:11	65:21 109:4	80:14,16,19
149:21,22	134:21	129:21 130:15	152:9	81:22 83:2,23
malicious	manpower 18:4	134:18	memo 11:1	84:4 85:25
151:20	18:19	Matters 56:10	71:21 73:2,23	87:24 92:25
manage 115:25	Mantech 64:2	mature 13:1	memory 17:25	93:10 94:1,19
116:25 133:6	manuals 50:10	30:7	MEMS 107:5,6	101:25 121:11
142:9	manufactured	matured 36:24	107:15,17	144:10
managed 115:22	107:23	matures 32:9	men 140:9	million 46:4,12
125:24	manufacturers	maturity 31:24	mention 28:7	48:21 69:4,22
management	59:23 64:7	32:1 40:4	63:25 142:21	105:6 107:13
8:16 11:5,8,22	manufacturing	119:4	144:20	134:9
15:19 23:11	64:2,5,17,19	McNamara 84:2	mentioned	millions 82:3
26:17 27:6	64:22,25,25	mean 21:11 23:2	57:20 76:24	107:1
50:11,13 80:8	65:1,5 106:14	23:15 24:13	131:14 139:10	mind 28:18
87:7 92:15,22	106:15 107:19	27:1 36:3	mentions 72:6	34:11 40:4
92:24 93:16	107:21	39:23 46:19	mentor 24:20	41:15 52:18
94:24 105:19	March 31:21	51:5 54:25	mentoring 24:16	63:1 65:14
115:2 118:5,15	Marine 110:3	56:22 71:11	merchant 70:20	126:25
120:7,7 131:25	Mark 5:25	76:7 77:3	84:11	mine 122:15
132:19 136:14	108:15,24	78:17 80:9	merged 68:7	minimal 62:12
145:23 146:5	126:3 135:3	87:13,20 90:18	75:5	minimum
manager 3:8,25	140:19 147:5	91:13,18 94:15	merger 56:6	116:10 129:3
4:8,14 6:19	151:24	95:24 99:14	68:17 75:10	131:6
12:23,25 49:20	market 4:6	104:1 118:1	mergers 56:11	minute 93:6
50:20 80:1	36:21 37:19	126:22 132:18	merits 86:9	minutes 7:5
102:24 103:17	56:3 70:21	143:13	met 73:20 111:2	67:20
104:10,14	99:11 130:3,4	means 31:25	methodologies	misleading
105:25 106:1,6	139:7 143:24	87:25 88:1	121:4	20:11
106:8 114:23	143:24 144:1	113:5 118:19	mezzanine	misplaced 23:5
147:6,11	marketplace	137:13	69:24 70:1,4,8	missiles 37:9
managers 8:25	99:12 131:1	meant 93:25	74:20 76:1	Mississippi
27:16 34:2	144:6	measure 74:9	Michael 3:24	91:15
52:5 74:1	markets 140:15	133:24 141:1	Microsoft	mistake 103:25
77:17 103:12	Mark-2 84:3	measured 54:3	129:20 130:6	misunderstand

97:5 99:4	months 73:5	112:19 140:5	needed 45:23	niche 70:6
mix 89:5	97:2 105:6	nature 151:12	46:5 58:24	niches 107:18
mixed 113:22	148:20,23	nav 76:18 94:10	81:4 113:11	Nichols 24:24
122:3	morning 3:25	navigation	151:8	25:1
mixing 89:6	4:21 5:18 6:23	79:13	needs 13:23	night 8:9 70:25
MMA 73:13	15:8	Navy 3:12,14	21:24 52:15,21	Ninety-two 7:23
model 33:1	motivated 141:2	73:24 93:8	52:23 53:14	non 29:20 92:6
34:16 124:16	motor 83:9 93:7	106:4	63:14,16 67:8	129:4
models 35:25	Motors 64:6	NDIA 5:17	77:24 78:16	nonsense 84:5
modest 34:24	126:17	21:22 22:1,8	95:25 105:12	91:21
modification	Moulton 2:25	62:3 64:16	106:7 108:17	non-aircraft
55:9	mousetrap	65:5	negative 121:10	123:3
modifications	80:22 104:14	near 52:19 53:1	neighborhood	non-material
32:9	move 5:20 6:16	near-term 52:23	49:18	29:13
moment 112:15	52:12 59:7	necessarily	nervous 20:4	non-traditional
121:1	103:18 121:25	59:24 70:3	net 120:2,4	129:10
Monday 105:2	143:11 144:11	71:7,10 114:14	138:22,23	Norm 68:9,10
money 16:21	147:24 148:5,9	115:24 117:1	networks 119:8	68:15,18 75:6
30:17 36:18	148:24	122:25 128:23	145:24	75:11,19
41:12,25 45:21	moved 147:12	128:25 133:15	neutrality 86:11	normal 102:16
47:1 48:13	movement 122:4	137:10 146:24	never 25:4 29:2	106:17
59:12 63:1,11	moving 39:13	necessary	33:10 40:13	normally 15:14
64:24 65:3	52:8 114:3	128:23	45:21 64:3	30:21 78:25
69:15 72:24	muck 41:8	need 11:3 12:2	71:10 79:23	83:4 104:8
82:16 83:3	Mulligan 6:17	17:20 27:5	85:13 101:18	106:19 107:23
90:18 91:1	6:18,19	29:7 31:2,19	123:18 136:2	Norris 3:18
95:23 106:19	multiple 7:10	32:7,22 33:14	137:19 144:7	North 138:9
107:15,25	99:24 100:3	34:4,20 37:1,4	nevertheless	Northrop 56:12
115:12 117:11	122:21 128:10	37:24 39:6	31:5	56:13 123:4
122:10,11	multi-billion	40:11 41:1,6	new 22:16 34:20	note 7:7,21 24:9
126:13 127:16	111:12	42:22,22 44:3	35:3,5,8,9,11	31:23
128:8,21 144:3	multi-years	46:15 50:22	35:13,15,20	notes 7:22
moneys 17:17	113:16	51:9 52:3,25	38:3 42:3,3	notice 11:6,13
63:6 103:18	must-to-haves	53:18 54:22	58:24 64:12	24:22 39:3
moniker 10:21	117:14	56:9 60:11,17	71:24 80:13	noticed 29:9,14
monitor 74:6	M777 110:2	62:25 64:23	83:9 87:8,9	30:21
77:10,15,24	M88 110:7	65:2 76:4 77:9	113:9,12	notion 14:16,24
79:3 80:20		91:16 94:1	125:11 131:3	not-for-profit
81:3 95:12	N	103:24 113:5	135:17,22	64:22
monitored 83:13	name 6:18 74:22	116:13 120:17	136:14 137:21	nowadays 83:1
monitoring	100:20 150:21	120:22 125:13	137:22 141:11	no-bid 146:16
73:14	names 100:20	125:14 129:21	nice 112:17	number 23:22
monitors 103:8	Nancy 2:25,25	131:6,9,16	niceties 108:23	23:23 31:13
103:9	national 61:14	143:13,20	nice-to-have	38:3,24 43:1,4
monthly 104:15	64:21 98:1	144:9 145:23	116:16,17	44:6,23 46:12

54:21 55:25 58:16 63:19,21 63:21 73:6,6 74:11 90:10 96:14 124:20 125:2 128:17 134:11 137:9 137:15,16 139:3 146:23 numbers 43:18 115:10 139:3 numerous 71:2	13:3 15:4 21:15,18 33:24 41:14 43:22 47:7,11,22 49:6 65:24 135:24 old 34:21 71:25 80:19 99:1 119:18 omnibus 58:16 once 12:9 32:1 43:14 68:10 70:1 78:6 81:4 81:18 82:7 92:2 115:18 134:20 ones 47:14 48:2 105:2,5,6 115:21 148:7 one's 117:3 one-hour 15:6 on-the-job 24:14 open 2:4 4:4 5:4 5:13 9:3 19:14 56:2 62:4 67:13,14 71:23 108:25 129:3 131:6 137:1,7 137:11,18 138:2,16 139:7 140:15 146:6 opened 29:3 opening 123:7 open-ended 7:14 8:20 operate 14:1,1 14:25 operating 102:8 operations 16:12,24 80:7 80:12,13 109:9 109:9 operators 33:6 37:21 opinion 7:11	8:22 60:1 71:7 76:21 77:6 78:2 85:6 86:13,14 95:3 96:4 98:12 opinions 8:15,16 8:21 opportunities 54:2 114:13,22 114:24 opportunity 84:15 108:11 109:5,20 126:1 146:9 152:2 oppose 89:5 opposed 43:20 50:11 56:7 83:12 104:9 122:6 129:19 opposites 43:16 optimism 135:17 optimistic 136:1 optimum 43:12 43:12 options 89:12 orals 149:24 order 12:19 36:5 51:3 57:23 67:4 115:25 143:8 ordered 113:15 ordinarily 19:14 organic 57:10 57:11,15 91:12 organization 6:19 22:21 102:24 103:10 103:15 organizational 62:17 organizations 19:13 103:3 organized 15:18 53:10 92:18	104:19 oriented 88:18 91:17 original 44:6 113:10 originally 18:14 110:5 111:14 111:18 OSD 46:12 77:14 79:21,23 80:4 101:1,13 OSD/PEO 101:7 OSPJ 30:9 ought 5:22 20:21,25 25:5 30:22 31:14,23 32:15,19,20 35:2 49:24 65:20 86:11 95:6,14 101:5 101:14,20 140:23 143:12 outcome 114:17 121:18 outcomes 20:18 114:20 122:5 outfit 64:22 Outlook 130:20 outset 114:14 outside 14:7 16:13 115:3 119:15 120:10 146:6,14 outsiders 105:21 outsource 93:24 outsourced 79:5 79:5 outsourcing 17:14 out-house 89:4 overall 10:12 11:20 12:16 21:2 overboard 99:17 overcome	151:17 overhead 57:1 overlapping 11:6 overly 141:18 overplayed 140:6 overrun 79:22 82:8 84:1 90:5 90:21 91:4,12 95:24 101:22 overruns 81:9 83:23 92:6,16 115:6 120:1 overseas 54:25 57:8,13 96:21 99:12 oversee 23:22 overshooting 98:10 overshot 94:23 oversight 22:22 23:15 25:15,17 72:15,15 73:17 79:18 84:6,13 94:25 96:1 103:12 105:24 142:17 overture 67:22 overzealous 149:18 over-require... 92:12 over-specified 124:7 owned 96:16 139:20 ownership 139:9,15 owner-less 39:9 owns 26:12 Oz 123:21 O&M 18:10 99:22 121:21
---	---	--	---	--

O

P	118:17	payers 115:7	118:11,14	1:5 4:19 23:6,8
pace 112:21	participation	paying 30:17	119:5 121:13	23:17 25:22
134:25	108:24	33:25 47:2,6	122:6 123:25	28:9 37:9,12
pack 45:8	particular 7:16	47:17 72:23	125:14 126:23	37:14,17 39:25
Packard 24:24	7:16 10:25	86:5 87:16	129:12,18,19	46:18 48:13,24
25:1,3 39:2,22	15:20 19:19	94:21 115:7	131:3 133:21	49:12 51:10,22
page 139:17	21:12 30:7	130:20,20	133:22 134:20	51:23 52:6
painfully 111:17	37:11 47:18	PDA 71:11	135:25 136:7	74:4,8 92:7
panacea 113:16	50:8 68:2 82:6	PDR 83:18	136:10 137:24	102:17 111:9
133:20	particularly	PDRs 119:12	137:25 142:4	111:22 120:19
panel 2:10 4:5	52:15 68:4	peak 113:1	143:3 144:24	performance-...
6:12 10:7	111:5 120:16	pencil 114:3	144:25 145:2,3	121:19 122:4
13:19 14:13	121:14,21	Pentagon 27:11	145:15,20	performed
16:5 17:5,8	130:9 145:9	PEO 39:8,11	146:2,21 148:9	17:23 18:10
21:24 34:13	partner 4:5	73:23 100:25	148:24 149:1,7	35:24
84:19 109:4,24	68:19 94:22	101:10,11,15	149:8,10	performer 36:2
113:6,9 117:25	120:12 121:9	101:23,24	150:23 151:17	performing
119:22 126:5	139:12	102:10,18	people's 49:23	42:21 51:6
138:8 141:10	partnership	people 6:8 7:6	PEOs 27:10	92:18
152:9	51:18 121:12	10:15 14:19	perceive 138:11	period 53:21
panel's 16:12	121:13	18:16 21:3	perceived 39:9	68:23 78:24
paper 61:4	parts 10:13	24:19 25:19	101:1	91:8 125:3
127:25 128:17	58:12 132:21	33:9,15,16	percent 16:10	127:20
138:4	132:25 138:12	34:5 38:24	20:8 31:25	permanent
Parallel 122:18	pass 28:12	41:13 46:17,25	42:11 48:20	33:19 83:9
parameters	passed 40:6	54:1 56:3 58:3	49:18,21,23	93:5,8
120:19	103:7 142:15	58:14,16,18	69:25 79:5	permit 118:16
parametrics	passing 131:14	59:3,4 60:8	82:8,10,23,23	Perry 99:14
30:25	141:25	61:20 62:1	89:18 90:10,10	person 7:10 9:25
pardon 110:11	path 28:21	63:20 64:18	110:4 130:9,9	25:21 26:24
124:17	129:12 134:13	67:16 69:5	130:11,12,13	27:12 33:6
Paris 138:25	Patrick 71:21	73:3,20 79:3	135:12,24,25	102:13 147:13
part 2:20 5:3,10	patriot 124:4	83:4 88:19,21	136:12,14	149:19,19,21
12:4,5 16:11	Patterson 2:3	89:5 92:4,22	139:21,22,22	personal 65:11
17:2,18 18:3,9	3:21,23 4:2	93:10 94:24	139:23 142:5	personally 53:16
21:12 30:19	14:14 15:11	96:22 98:13	percentage	113:1
42:5 49:3,12	21:7 52:7	99:18,24 100:2	89:20 139:6	perspective 5:18
51:25 58:6	67:20 136:23	100:10,14	perception	5:22 6:4,7,10
60:6,24 63:23	pause 103:22	101:25 102:8	93:20	7:17 17:8
68:17 73:2	Pax 80:24	102:11,21	perfect 29:23	22:24 47:10
78:19 84:9	pay 19:1 29:22	103:11 104:5,5	33:3 44:12	65:11 67:7
90:11 122:12	33:25 50:18	105:4,8,23	perfected 123:6	112:9,10
133:4 137:18	73:3 83:3 90:8	110:9,18 113:5	perform 53:20	119:17 131:17
141:10 151:6	130:16,18,22	116:17,22	90:16	perspectives
participate	payer 115:13	117:19 118:8	performance	21:22 61:16

<p>phase 25:1,2 119:14 132:7 phases 132:7 phenomenon 17:14 philosophy 10:24 phone 71:12 phrase 117:10 pick 44:4,4,4 56:8 86:8 93:3 94:5 95:1 109:25 144:21 147:9 picked 56:13 94:3 124:12 132:4 picking 94:20 picture 110:19 piece 12:16 34:8 61:4 63:23,23 133:1 piled 26:15 Pillar 147:5,5,24 pique 17:10 Pittsburgh 64:19 place 27:4,14 28:4,11 45:13 46:16 52:17 69:8 89:1 92:19 98:19 101:3 119:10 placed 28:14 places 40:5 45:12 64:9 86:16 97:17 plan 5:13 19:3,4 19:7 43:19 48:5 114:23 120:25,25 plank 14:10 planning 11:15 plans 3:19 20:23 plant 64:10,12</p>	<p>platform 31:10 70:3 75:13,19 76:19 77:1 82:5 95:16 99:24 100:14 100:17 platforms 73:12 84:1 99:25 100:18 133:11 players 59:8,22 131:3,4 playing 76:16 please 11:23 12:18 34:12 108:15 120:11 121:19 122:17 pleasure 67:4 plenty 104:7 plus 23:14 48:15 48:19 49:18 57:14 89:14 140:25,25 142:8 PMs 23:20 27:10 32:21 77:9 PO 79:25 80:1 80:21 81:1 86:1 pocket 136:16 podium 81:5 point 15:15,22 30:6 33:22 47:4 51:1,16 57:24,25 63:13 63:15,17,18 65:17 82:11 83:18 89:24 111:11,14,25 114:14 115:4 119:25 121:1 122:19 124:13 124:13,17,23 128:15 132:17 132:17 139:19</p>	<p>142:3 143:7,25 144:21 147:1 148:5 pointed 117:21 135:15 151:12 pointing 54:16 124:18 points 2:18 11:9 11:19 62:25 63:4 65:4 90:14,22 112:1 129:7 police 97:2 policies 32:20 policy 3:19 11:5 71:22 72:1,9 125:14,18 138:17 political 45:12 80:5 98:13 100:4,10,13 politically 80:10 91:17 100:2,7 112:14 145:13 politicians 91:17 91:19 POM 41:16,17 41:24 42:1,2,7 43:2,8 46:3,11 pondered 129:25 pool 18:4,16,16 18:17 148:18 149:10,11 poor 23:9 25:15 49:11 105:12 poorest 23:24,25 population 9:8 9:22 10:3 portion 15:17 63:10 POs 71:22 72:15 72:17 74:1 80:4 position 16:3</p>	<p>91:12 142:6 positions 7:13 positive 120:5 120:23 121:18 possibility 48:12 possible 29:24 33:3 45:9 112:1 possibly 33:19 120:19 121:10 124:11 125:14 post 139:17 143:5 potential 70:2 potentially 47:19 127:24 potentials 148:4 pound 31:1,4 poured 107:12 power 41:1 46:11 133:7 powerful 35:10 practical 11:9 149:5 practice 24:16 24:19 114:11 125:18 141:13 practices 125:24 precedes 14:2 predictable 112:17 preliminary 22:4 premeditated 151:6 premise 61:20 prerogative 113:17 present 19:8 22:8,10 60:7 108:22 113:9 presentation 65:11 149:18 presentations 19:22,25</p>	<p>presented 70:16 71:3 125:11 presenting 109:24 president 4:6,8 4:13 5:17 21:25 68:8 103:4 104:17 108:16 140:7 presidential 55:1,4 President's 59:15 press 92:17 pressures 45:12 presumably 151:14 pretty 4:19 6:6 10:8 15:9 25:13 30:3,11 32:2 34:24 36:8 39:25 44:22 46:7 48:22 51:3 53:12,21 68:25 75:20 76:25 80:22 108:5 111:6 112:4 119:23 124:21 125:18 136:18 150:5,6 prevent 109:1 149:14 preventers 149:14 previous 35:5 59:18 previously 115:11 price 48:10 71:7 81:15,25 83:16 83:19 86:9 89:14 90:13 91:7,10 119:25 120:3 124:13</p>
---	---	---	---	--

140:21 141:4	55:12 56:18	81:8 83:22	83:24 99:8	profitability
142:1,7,11	57:4,6 60:21	92:5,16 95:7	121:4 133:13	107:22
prices 121:17	61:12 63:3,6	96:12 101:2	139:9	profound
pricing 62:9	63:10 64:7	106:10 110:22	produce 32:13	112:20
primacy 101:6	75:1 80:5	110:23 112:3,4	47:14 51:13,17	program 4:14
primarily 24:13	109:13 110:2	119:6 137:4	88:18	4:15 6:19 8:25
primary 135:11	114:12 129:25	138:11 142:8	produced 39:18	11:16 12:23,24
prime 70:2,3,11	133:3,9,19	149:6	39:21	15:22,23,24,25
70:18 71:23,25	134:1 136:1,4	proceed 119:19	producer 58:8	23:4,8,11,14
72:6,8,13,19	141:6 142:3	process 5:1,2,3	producing 51:18	23:16 25:24
74:24,25 76:11	147:9	5:16 6:16,23	product 6:9	26:6,8,16
77:10,19,22	problem 18:23	6:24 7:12 8:16	25:25 26:1	27:16,17 30:2
78:15 81:10	29:11 41:15,16	9:12 10:24	38:4 50:12,15	30:6,17,18
82:2,11 83:8	41:19 42:8	11:17,18,24	50:18 55:5	31:5 32:1,2,12
83:12 84:10	45:19 46:20	12:2,17 13:8	69:20 76:6,18	34:2 36:10,11
85:16,20,21,22	51:19 58:5,14	15:13 16:14	77:2 84:10	36:12 40:5
85:24 86:4,6	58:23 59:6	21:5 22:22	86:18 87:8,12	41:6,25 43:13
86:16 88:5	60:9,22 70:9	24:25 25:13,16	91:5 94:3	43:15 45:16
90:12 94:2,11	70:17,22,23	25:19 26:13,15	104:13,14	46:5,13,22
95:20,21,23	71:3,5 73:25	26:18 27:13	121:16 126:20	47:13,18,21,24
99:18 100:19	75:21 78:10	28:22 29:3,14	127:16	47:24 48:1
110:3 142:8	79:24,25 81:24	29:18 30:4	production	49:11,20,21
primes 54:4,22	81:25 88:6,6	33:23 34:20	31:25 90:13	52:4 64:2
55:10,11 71:18	88:20 92:13,20	37:1,15 39:11	106:14 127:10	70:19 74:1
72:23 75:25	92:21,24 96:13	43:22 45:20	127:17	76:12 77:12,17
76:12,13,15,17	96:19 97:23	46:8,18 48:3	products 51:13	77:24 80:1,7
78:3 99:23	98:9,18 99:5	50:10,14 51:11	51:17 68:11,16	80:18,21 81:8
principal 3:6	101:17 104:3,6	53:22 56:15	68:20 69:13,16	82:4,14 83:3
109:17 110:24	104:9 112:23	60:3,20 78:19	71:8 75:7,14	85:13 88:2
principle 144:10	113:4 116:21	81:19 82:14	75:17,23 76:2	90:1 91:16
prior 40:25 45:2	120:16 132:13	96:3,25 100:24	76:16 86:22	92:20 94:5,23
73:20	132:20,23	101:1 113:7	87:2,6 111:7	94:25 96:21,22
priority 80:12	134:3 135:1,2	114:10 116:20	118:22 126:16	99:1 101:17
115:24	135:21 136:17	116:25 119:6	140:3	102:2,2,5,11
private 121:25	147:25 151:10	119:11,23	professional 8:3	102:16,24,25
probability	problems 22:19	120:21 142:17	19:13 23:21	103:2,3,5,17
114:16,20	23:4,8,13 24:3	143:10 144:16	44:18,19	103:21,22
probably 12:20	24:5 29:21	146:7,25 150:9	professionals	104:4,10 105:9
15:8 17:1	30:14,20 31:8	150:25	34:3	105:16,17,19
19:15 23:12,24	37:5 39:9,13	processes 11:14	profile 40:24	105:22,25
23:25 24:23	39:23 40:3,10	11:22 14:7	151:4	106:1,6,8
25:25 30:2	40:16 41:17	processors 79:7	profit 28:8,12,18	109:23 110:1,8
31:4 33:23,24	47:15 48:7	procure 57:6	32:19 48:14	113:14 114:13
33:24 39:16	52:1 67:18	120:25 121:2,2	82:21 90:14,14	114:23 115:3,7
50:22 55:10,11	68:5 70:24	procurement	90:16	115:8,12,13,18

115:19,25	3:17 4:3 20:13	provide 2:12	40:11 43:3	question 2:6,8
117:15 119:19	24:6 35:13	63:21 75:23	45:16,22 46:12	2:10 5:24 6:1
120:6,7,8	94:24 103:14	94:3 105:24	50:10 52:17	16:6,8 19:2
123:7,8,9	projects 35:5	106:5,20	56:5 61:3,18	20:4 33:14
124:9,10,16	110:16 111:13	121:16 140:3	61:21 64:23	41:14,19 47:11
131:25 132:2,8	promise 131:19	provided 2:8 7:9	65:9 72:8,10	47:22 50:24
136:3 146:13	131:20	provider 69:12	73:22 76:22	51:8 52:8
146:22 147:6,7	promoted	providers 6:9	78:18 80:3,15	54:13 61:12
147:11,14,19	147:16	provides 3:17	82:24 83:10	81:6 89:13,25
147:19,22	propel 127:22	6:20 144:4	85:7,19 89:15	92:16 100:23
148:2 150:12	proper 23:15	providing 123:2	90:7 92:22	106:12 127:5
151:4	49:1 144:11	proving 33:21	93:8 95:9	129:24 135:15
programmer	properly 24:20	provocative	97:15,19 98:6	135:16 140:17
45:5 63:9	133:6 142:9,20	108:5 151:25	101:3 105:16	150:8,14
programmers	prophecy 23:10	pro-rate 82:8,22	107:8,19,24	questionnaire
46:7	proposal 27:21	public 19:5	113:13 124:21	7:8
programming	77:8 123:22	67:16 69:3,18	125:12 126:13	questions 6:11
11:15 45:8,9	124:1 127:25	69:20 139:25	128:2,21 130:5	7:9,10,14,15
programs 4:9	149:16,19	publicly 139:19	138:7	7:19 9:18 10:7
8:3,6,25 23:22	150:9,25	pull 11:10 44:25	puts 10:12 18:15	10:8,16 15:1
29:8 30:1	proposals	puller 40:12	110:6	16:8 34:11
31:22 32:18	123:17,19,20	pulley 40:12	putting 10:4	65:14,19,22
34:16 40:3	125:4 138:4	pumped 63:16	20:22 28:18,21	81:6 84:19
42:11,12,13,15	144:17 145:15	pumps 35:17	35:9 36:19	88:23 108:9
42:17,21 46:1	145:16 150:4	punted 107:3	40:21,21 41:16	109:2 115:10
46:2,3,15,20	propose 151:2	purpose 68:21	42:1 43:17	125:10 126:2,4
47:16 49:18	proposed 72:7	purposely	65:3 87:9 91:1	144:12 147:4
50:1 78:1,21	150:10,12	113:15	96:19 116:17	150:2
78:24 79:18,22	proposition	purposes 152:10	126:17 128:8	quick 111:10
81:3,15 82:1,3	89:17	pursuit 61:21	P&L 103:1	quickly 110:21
82:4 83:2	proprietary	push 36:20	104:11	143:23
92:11,17 98:13	72:13 87:4	pushed 122:14	P&P 29:1	quite 10:12 13:5
99:2 102:13	98:6	pushing 124:12	P-R-O-C-E-E-...	17:7 20:19
104:12,15,15	protect 100:3	141:6	2:1	30:24 38:1
104:17 105:8	protected	put 2:18 5:8	p.m 67:2 152:11	62:23 113:22
106:8 109:25	100:11	6:22 10:21		114:2 118:12
110:7 112:6,8	protecting 97:18	11:2 16:13,19	Q	119:5,23 125:2
112:21 114:1	117:16 128:12	17:7 19:20	qualified 74:24	125:19 130:21
120:2,2,3	prototyping	22:2,19,24	quality 47:3	136:19 137:9
123:11 125:7	127:7	27:2,13 29:1	54:18 63:20	137:24 145:7
133:18 146:5	proud 109:13	29:17 30:5,15	100:18 124:23	146:12,23
149:13	117:1	30:23 32:14	143:9	quote 119:18
progress 126:25	proved 36:14	35:4 36:13,17	quantify 114:12	Q&A 28:9
project 1:7 2:14	proven 35:13	37:6,15 38:15	114:20,22	Q's 61:6
2:15,16,20,22	36:20	38:18 39:22	quarter 5:25	

R				
radar 36:4	124:12 125:3	119:5 121:13	143:6	88:19 145:6
94:10	127:23	146:20 149:1	refueling 55:9	representative
radars 36:6	realize 114:23	151:22	refused 73:23	108:19
radically 53:9	realizing 29:25	recognized 2:10	regard 73:23	representatives
125:11 130:2	really 7:17,18	recognizing 71:7	84:14 98:21	7:25 8:18
Radio 98:23	17:22 18:1	recommend	128:9 139:15	19:12
raise 63:4 129:7	21:23 24:10	21:11 26:22	141:22	represented
135:9	29:7 30:3	27:14 55:16	regardless 43:2	3:15 9:22
raised 136:24	33:14 34:4,7	89:23 117:23	reimbursable	14:18
ramifications	44:20 48:25	recommendati...	81:17,20,21	representing 8:1
18:1	51:1,5 53:9,19	42:19 77:25	83:8,12,17	represents
ran 78:12 88:7	53:20 54:15	recommendati...	84:5 86:6 91:8	133:12
random 144:21	58:8,10 59:2	19:23 101:8	reiterate 88:25	reprimanded
range 44:8	60:5 64:6	108:21 119:19	related 57:22	98:3 101:19
114:15	68:12 69:25	recommending	relationship	reputation
ranks 34:16	72:4 73:25	76:5 89:1	136:25 137:4	43:15
rapid 122:4	79:1 84:13	reconvene 21:17	relationships	request 45:22
rare 118:18	86:1,21,22	65:25 152:9	72:6 109:16	68:17 77:8
147:18	88:11 90:22	record 15:4	relative 150:13	require 12:10
rarely 16:11	93:2 100:7,18	51:23 52:2	relatively	76:11 77:22
49:10,12	113:5 115:1	67:18 83:25	112:17 125:2	required 77:19
rates 112:25	119:21 121:5,5	88:9	reliability 36:3	82:17
RCA 69:10	123:20 132:2	red 95:1 103:21	122:5	requirement
react 143:23	136:2 137:24	103:22 104:5	reliance 123:16	12:21 29:10,12
read 22:18,20	137:24 138:5	105:9,10	138:4	34:20 41:12
87:5 92:17	141:5 145:2,4	reduce 99:16	reluctance 49:2	72:8 78:5
101:18 123:23	145:24 146:2	reduction 82:2,7	reluctant 42:15	116:10 120:15
reading 150:4	148:8 149:20	83:2,5,7,15	remarks 22:25	151:7
ready 40:6 93:8	150:6,24	91:6	109:22	requirements
real 18:15 23:6	reason 13:18	reductions	remember 28:2	8:16 11:17,17
31:9 42:20	24:4 36:9	93:23	84:1,23 99:9	12:2 14:20,23
50:21,25 58:23	41:22 42:14	referred 133:14	104:17 121:21	15:25 22:21
59:6,7 64:4	50:17 73:24	146:7	remind 27:25	26:10,13,23
110:9 119:8	84:23 93:19,20	reflect 15:5	reminder	27:3 33:5,7,13
148:22	126:14 132:21	52:21 113:24	108:25	33:17,18 37:1
realism 113:21	141:16	reflection 18:24	replace 38:5	37:6,15,20,21
135:5,23	reasonable	49:13	report 2:18 9:16	38:13 39:5
144:17	103:6	reflects 43:25	32:4 101:25	40:21 44:1
realistic 54:7	reasons 100:25	52:11	105:8	46:23 47:25
114:8 116:1	119:24 124:19	reform 5:6 12:1	reporting 39:5,9	52:20 57:25
reality 38:15	127:18	17:4 87:2	87:10 101:15	60:8 81:21
43:13 112:24	recess 21:19	143:2	102:20 103:15	85:20 93:1
117:2,15	66:2 108:13	reforming 12:12	reports 104:16	110:25 111:1,2
123:13 124:8	recite 76:21	13:5	111:4	112:15 116:1,2
	recognize 74:23	reforms 142:23	represent 2:21	116:2 123:12

124:11 134:23 146:18 150:11 150:24 151:12 requisite 78:1 rescue 55:2 research 10:10 45:2 63:16 80:20 82:25 110:15 reserve 57:23 115:2 136:14 Reset 110:8 reside 27:20 resident 74:1 102:8 resist 110:17 resistance 129:17 resource 137:9 resources 12:3,9 27:18,18 30:15 32:22 53:10 69:14 87:22 93:21 94:21,21 96:1 103:24 104:7 105:11 118:5 127:5 138:3 148:15 148:19,22 respect 117:19 respectfully 113:8 123:22 respects 51:8 respond 39:6 65:15 139:25 responding 7:18 responds 51:2 140:1,2 response 2:12 6:14 10:17 14:6 15:3 20:3 65:8 83:6 responses 8:20 10:2 responsibility	18:11 27:2,17 41:7 52:8 72:20 74:2 79:18,20,22 80:17 84:6 88:1 92:8,14 92:25 93:15,24 94:6,18 95:14 100:24 101:22 102:12 103:20 104:10,22 106:1 107:24 147:12 148:12 responsible 13:3 37:19 38:14,19 41:16 49:3,8 78:13 92:23 94:4 95:11 101:20 102:2,3 102:4,21 103:5 104:14,21 responsive 38:1 48:23 116:6 responsiveness 9:17 rest 14:21 17:5 110:16 116:19 125:1 restricted 133:8 restrictions 50:19 97:4,5,6 97:9 restructure 92:21 restructuring 95:7 result 23:9 44:2 48:8 results 9:13 retire 12:5 retired 22:2 return 32:23 37:12 107:22 returned 79:19 reusability	135:8 reusable 135:8 135:16,21,24 136:3 reuse 137:14,15 review 4:22 16:12 19:21 25:7,17 26:2,3 26:7 77:23 104:15 105:4 119:14 120:8 145:19 146:8 146:15 reviews 24:23 25:24,25 26:1 26:9 103:13 136:10 148:11 148:21 revisited 60:12 revolution 62:10 reward 49:15 130:25 rewarded 137:23 re-emphasize 32:7,19,23 re-learn 25:7 re-write 24:24 RFI 60:20 RFP 60:19 72:8 73:9 83:6 96:3 119:11 146:19 RFPs 77:22 120:13 rhetoric 77:3 Richard 4:10 rid 102:15 143:2 ridiculous 86:5 right 3:24 7:2 9:13 16:23 19:9 21:8 23:25 25:8 29:20 31:2 36:25 37:16,23 38:16 42:25	44:22 46:18 54:19,23 56:19 58:8,10 59:1 59:11 60:2,4 60:14,15,25 63:5,7 64:18 73:18 76:15,19 77:10 79:9 81:16 85:14 89:9 91:22 94:19 97:5 98:21 102:4 106:7,9 113:14 134:10 141:21 143:9 145:8 rigor 10:12 29:17 113:23 125:16 rigorous 114:25 risk 28:8 82:2,3 82:7,19 83:2,5 83:7,10,13,14 83:15 91:6 93:2,11 114:4 114:9,12 115:1 124:14 126:19 130:25 135:23 142:15 151:4 River 80:24 rocket 64:10 Rockwell 70:6 role 28:8 87:21 102:23 roles 16:8 rolled 22:12 33:12 rolling 131:4 Ron 4:5,17 20:3 22:7 34:6,9 109:3 150:13 Ronald 5:25 108:16 109:3 110:21 126:9 127:12 129:24 131:21 134:6	135:14 137:6 138:20 140:24 143:13 144:18 144:23 145:17 147:8 148:1 150:13 151:5 151:11 152:2 room 6:13 10:16 61:7 99:23,23 136:8 149:8 152:10 roost 116:11 Rose 3:12 rough 26:6 round 151:25 routers 79:7 routine 107:21 rule 104:25 144:7 rules 2:5 31:14 31:18 36:12 54:19 run 48:17 75:13 80:10,13 105:1 109:10 123:11 running 43:24 44:11 80:6,11 80:17 98:17 runs 102:13 R&D 35:5,13 63:3,11 69:15 69:15 76:2,5 81:25 91:7
S				
SAFAQ 147:5 Safari 86:16 87:14 sailed 99:13 Samper 73:20 73:22 sat 33:12 satisfied 33:19 52:24 149:2 satisfy 95:25				

satisfying 80:4	116:16	12:13 14:16	selected 55:14	seriously 109:21
save 102:12	score 121:6	17:17 21:15	96:23	seriousness
115:12 122:10	Scouts 41:5	23:13 24:5	selection 23:14	110:17
saves 117:11	scratch 38:3	27:8,12,16	27:6 57:24	serve 33:21
saw 74:15	screw 74:7	28:11 36:13	85:17 144:16	117:20 132:2
122:23,23	screwed 92:21	45:1 46:4 48:7	144:19	served 40:9
saying 20:18	scribe 7:7	49:17,25 55:1	self-auditing	service 3:18 9:6
43:6 71:22	scrubbed 88:10	55:3,15 56:3,6	82:15	17:12,15,17,23
76:4,20,23	search 12:14	57:1 59:7,15	self-fulfilling	18:8 22:11
79:1 82:20	132:14	64:7,9,13	23:10	26:11,12,25
84:13 86:11	seat 40:12,14	65:16 68:5	self-healing	27:1,22,23
87:23 90:18	SECOM 145:1	80:21,25 86:17	90:25	28:4 32:24
97:1,4,17	second 9:9 13:22	86:18,24 87:6	self-pour 150:18	39:3 41:19
101:5 102:18	57:12 63:23	91:2,19 92:17	self-serving 68:3	43:9 52:9
123:23 127:14	75:7 77:22	95:5,17 96:11	71:4 79:17	63:20 79:19,20
says 41:3 43:8	96:24 97:15	96:17 99:7	84:10	79:24 101:6,16
73:18 74:5	98:15 104:1	105:12,12	sell 84:10 87:12	101:19 118:7
78:4 81:7	114:7 115:24	110:11 113:9	87:13,13 96:24	services 2:23 8:5
82:23 83:4	118:25 132:17	117:12 119:17	97:10,12,13,23	8:6,18 11:18
107:16 136:25	136:11 143:11	121:23 122:12	98:2 130:6,14	16:9,10,23
scale 147:8	151:25	122:13 126:16	130:14,15	19:13 20:7
scar 24:15	seconds 152:9	132:13 138:25	seller 81:19	27:19,20 30:22
scary 124:3	Secretaries 39:4	145:9 151:9	82:15	39:1,21 44:23
141:12	Secretary 3:1,14	seeing 59:14	selling 80:10	52:15 53:12
Scasi 88:13	10:25 13:9	100:14 134:13	97:2,20 98:3,7	58:13 64:3
scattered 26:16	43:17,17 56:10	seeking 115:1	104:13 110:2	73:2 87:1,11
27:9 46:16	67:15 71:20	seen 27:21 30:3	139:11	100:23 101:14
schedule 9:24	73:3,21,23	47:5 53:24	send 103:22	118:2 122:2
15:5 22:19	76:24 77:16	54:25 70:9	130:16	125:22 140:4
23:2,10 30:15	79:23 101:16	73:6 90:1	sense 37:6 61:8	servicing 18:6
30:18 31:12	101:18,21	113:1 128:2	80:5 118:5	serving 3:16 6:8
32:3 37:14	102:1 106:3	segment 83:11	131:24 143:23	session 2:4,4 4:4
65:24 102:16	Section 145:19	130:25	sensitive 51:5,7	5:4 6:3 65:24
110:25	145:19	segmented	sensor 97:14	67:1
scheduled 7:24	sections 7:1	83:17	sent 104:4	sessions 9:3
9:6,23 111:20	sector 19:5	segments 83:6	separate 11:8	set 2:4 7:24
131:10	75:16 105:7	segregate 21:1	12:10 14:25	11:10 22:24
school 41:3	111:25 122:1,9	62:15	17:21 26:11	28:25 32:14
science 24:10	144:5	segregated 18:8	62:16 125:3	38:16 48:8
61:19,21,23	sectors 87:8	segregating	separated 75:14	53:17 67:12
62:8 63:12	security 112:19	19:24	80:14 87:11	68:9 75:13,16
scientific 63:16	138:17	Seigenthaler 3:7	100:9	77:14 81:3
scientist 62:13	seductive 127:25	3:8	series 24:24	83:16
scientists 71:13	135:18 151:11	select 23:20	26:21	sets 5:10
scope 116:12,13	see 7:3,5 9:23	48:10 93:24	serious 29:21	setting 38:13

seven 7:14	show 68:1 72:4	57:7	130:7,14	sort 10:3 17:15
Shack 98:23	93:15 138:25	sir 84:18 108:11	133:25 134:2,4	17:21 41:10
shake 89:7	showed 8:11	144:13,13	134:8,15,18,24	61:11 62:15
shame 124:14	96:6	sit 103:12	134:25 135:1,5	89:6 106:11,12
shape 20:22	shown 8:1 9:10	138:24 150:1	135:7,10,13,17	127:9 150:4,5
152:1	124:20 141:4	sites 19:6	135:22 137:14	sound 10:21
share 43:19	shows 74:18	sitting 149:10	sold 68:11,16	sounded 141:9
109:5 120:15	shrinking 97:21	situation 50:13	98:22	sounds 141:14
120:21,24	shut 75:7	92:8 97:24	solicit 19:3,4	source 57:12,24
shareholders	shy 2:8	101:24 112:16	solution 31:9	128:14 144:16
132:9 139:21	side 18:20,20	117:3	39:23 58:23	144:19
139:23 149:22	23:13 51:20	six 41:25 104:18	59:6 72:7	sources 57:13
sharing 65:18	56:25 80:4	104:25 105:5	96:23 126:21	62:12
82:22 146:6	84:4,4 114:2	112:2 113:7	129:6 132:14	so-called 68:22
sharpening	117:4	sixth 109:10	138:6	70:18 148:3,13
114:3	sides 112:9	Skance 34:7,7	solutions 26:21	space 3:18,19
sheer 20:20	121:13	skill 81:3	29:14,21	46:19
shelf 91:6	sight 93:1 111:5	skin 82:24	111:24,25	spares 18:16
126:17	111:23	skip 74:18	114:15 116:21	94:14
shift 148:18	SIGINT 87:14	sleep 108:3	117:5 123:15	speak 67:5
ship 95:16	sign 87:18	sleeves 33:12	134:24	149:10
120:17 122:23	significant	slide 8:8 11:4	solve 29:11	speaks 103:4
124:2	93:16 120:1	120:11 121:19	81:24 83:22	spec 143:10
shipbuilders	145:10 146:5,9	122:17 123:19	84:8 96:12	special 3:4 15:15
100:5,12	significantly	124:5,19 125:9	104:9 106:10	17:20 73:22
shipbuilding	8:25 109:12	slides 7:3 67:23	147:25	105:20
56:13 100:2	134:15,16	68:1 74:15	solved 137:2,5	specific 101:8
ships 56:17,19	silly 136:11	sloppy 81:20	somebody 27:3	105:15 108:9
59:4	similar 35:18	small 19:3,13,19	42:2 46:22	113:8 144:9,20
shipyard 56:21	60:6 93:3	19:24 28:23,25	47:2 62:6 95:2	147:8
shipyards 56:16	Similarly 114:21	42:25 48:22	132:21 133:2	Specifically
56:18,19,21	simple 77:25	57:14 64:4	137:14 144:25	17:16
shootout 29:6	118:1	69:14 114:12	147:14,14,17	specification
shoot-outs 57:21	simply 137:11	130:4	147:18,20	144:10
shore 57:16	simulation 33:1	smaller 54:3	150:1	specifications
short 5:4 13:11	127:8	63:11 105:6	somebody's	143:7
53:21 125:3	single 28:4	110:15 131:2	127:2	specified 9:1
127:20 149:3	29:10 54:3	151:15	somewhat 16:3	specs 142:25
shorten 123:12	57:13 81:7	smart 128:23	19:16 114:10	143:2,5
shorter 150:1	99:8 130:18	135:25 145:3	114:16 142:7	spectrum 20:6
shorthand 13:17	133:1,7 147:1	smarter 136:10	sonar 76:18	20:12 114:4
shortly 91:25	singled 28:2	151:8	sophisticated	spend 17:1 43:7
shot 107:16	single-engine	societal 61:25	36:8 124:21	43:7 69:15
shoulder-to-s...	35:10	software 31:11	sorry 112:2	80:4 112:25
140:8	single-source	56:4 58:12	122:13	128:12

spending 16:9 62:2 101:12,23 113:2	143:14,15,18 144:2	124:22	62:17 101:7 102:19 131:22	subsidies 76:2
spends 102:10	standing 58:19	step 10:19 14:3 17:13 42:20	structured 5:14 8:22 50:6,17 132:15	subsistence 31:10
spent 12:12	standpoint 11:9 13:8 14:11	49:4 63:14 85:8,9 120:15 141:21	structures 48:9 48:10 54:20 56:1	substantive 20:6 76:16
spiral 117:10	100:10 102:10 103:9 129:23	Steve 3:3	structuring 60:10	subsumed 15:19
split 7:5 26:14 39:24	start 5:12 12:1 13:22 21:17,21 34:13 42:12	Steven 3:3	struggling 20:19 38:10 39:7	subsystem 79:12 82:6 83:7,17 100:19
spoke 131:5	43:17,23 59:14 62:22 70:14	Stevens 78:9	stuck 135:18	subsystems 71:18 72:11 95:10
sponsor 107:11	82:5 90:9 91:1 113:14,19	stock 119:25	studies 15:16 122:18,21 128:10	succeeding 52:4
sponsored 71:21	135:20	Stokley 144:13 144:14 145:14 147:3	study 5:10,16 9:2,4 10:5,25 13:12,16 19:1 20:17 31:20 129:16	success 36:16 102:25 139:10
SPOs 24:14	started 40:2 62:23 69:17,21 105:20	stole 128:19	stuff 18:17,23 42:24 44:11,17 45:24 78:3 127:6 128:4	successful 12:19 87:15 123:6 124:10,16 125:20 147:11
spot 56:5 65:10 138:7	starting 7:2 12:13 89:19 104:20 105:10 108:15	stood 73:25	subcontract 79:10	sudden 97:25 98:5
spread 118:6 129:4 145:22	starts 53:3,5 105:10 113:21	stop 84:12 98:3 140:4	subcontractors 8:7	suffer 124:11
spun 53:20	start-up 47:24	store 98:24	subject 7:11 8:17 34:11	sufficient 30:15 138:3
squeeze 42:24	state 98:18,20 98:20 126:24 141:6	story 133:17	subjects 8:13	suggest 34:6 35:1 118:24 120:14 125:7 142:25
squeezing 142:10	statements 12:20 79:17	straightforward 15:10	submarine 56:20 99:24	suggested 137:13
stability 15:22 15:23 29:10,12 31:24 118:9	States 18:4 56:7 110:5 138:25 139:4	strain 18:15	submarines 39:20 44:16	suggesting 140:15 144:8
stabilized 113:14	state-of-the 91:7	strategies 77:17	submission 146:16	suggestions 129:9 137:10
stable 12:21,22 16:2 112:16,17 115:15	statistics 53:24	strategy 13:24 14:5,11 60:2,4 60:10 61:11,15 112:19,20	submit 119:9 127:21,23 128:7	Suite 1:13
staff 3:13 6:12 26:2,3,4 27:11 39:9,15 53:7 103:7,8	statutory 28:14	street 73:12 95:24	summary 9:7	summarize 8:11 77:21 125:9
stage 146:15,16 146:16,21	stay 58:1 65:24 105:7 118:9 141:19	strength 98:13	summarized 111:3	summary 9:5,19
stages 120:8 146:23 148:10	stayed 74:14	strengths 151:16	super 150:17	superiority 77:1
stage-setting 110:12	staying 32:3 142:24	strides 118:13	superstars 147:24 148:3	
stand 2:9,10 64:17	stays 103:19	strong 55:3 101:3		
standard 143:20 143:22 144:3	STD 125:8	strongly 7:12,13 115:5 122:3		
standardization 143:10	STD-type	structural 50:21 54:12		
standards		structurally 54:12		
		structure 10:24 25:10 30:24 45:17 48:1,2 52:16 53:4 54:6 55:12,18 55:19 59:23		

supper 99:15	survey 2:19	124:2 131:23	87:1,21 91:7	60:13 67:11
supplier 84:11	15:20 85:15	131:25 135:11	92:3 95:8,9,15	72:21 78:23,24
84:22 109:11	surveys 15:17	136:7 141:24	96:10 109:20	79:11,14 81:11
128:24 129:1,2	survive 69:3	systemic 110:23	111:6 118:18	82:4,24,25
129:5 139:18	suspect 63:9	119:3 151:9	122:25 127:16	83:1 91:4 98:7
140:1	sustain 12:5	systems 6:1 11:6	129:21 130:5	129:15 147:1
suppliers 69:2,3	sustainment	11:8 16:11,13	142:11,16	149:20
69:13 75:7,8	16:24	16:15 17:1	148:11,21	tank 39:19,19
85:6 100:3	Suzanne 71:21	18:12 24:21	taken 7:23 56:11	58:24 59:3
112:14 129:10	swallow 132:18	25:24 31:10,12	63:13,18,24	95:16 151:1
supply 112:13	Swansons 78:9	31:16 37:12,17	65:4 94:23	tanker 31:17
142:10,15	SWAT 103:22	39:10 40:8	136:21	55:7,13
support 6:21	sweet 13:11	41:23 53:13	taker 7:7,21	tank-building
16:15 17:20	swung 85:1	57:1 63:22	takes 44:13	58:25
55:24 58:2,12	symposiums	73:10 78:22	60:23 74:10	target 9:8 43:4
121:21	61:14	108:16 109:17	83:24 86:2	59:25
supporting 7:12	symptoms 23:5	114:10 116:5	149:2	task 10:4 58:18
64:1	system 6:9 10:22	119:2,13 133:4	talent 17:24	117:16
suppose 58:25	11:15,22 12:4	133:23 136:19	23:14 117:22	tasking 22:18
supposed 47:14	12:7 13:2	140:24 143:8,8	118:18 119:1	taxpayer 121:17
74:8 111:19	14:19,21,22	S&T 62:24	120:9 145:5	124:4 142:14
sure 7:22 12:25	19:20 21:2		147:1 148:18	team 2:16 7:6
21:14 22:15,17	24:2,8 26:5,10	T	149:11	62:16 95:1
23:18 32:21	26:10,24 27:3	table 21:13 42:3	talented 113:5	103:23 127:10
51:10,15 67:16	29:24 30:13,21	43:24 108:18	145:2	teams 62:17
76:22 86:1	31:22 32:15,17	150:6	talk 5:23 12:25	104:5,6 119:15
89:23 93:25	32:24 34:20	tacit 40:22	13:18 15:22	148:13
94:16 102:1,15	37:14,24 38:15	tackle 132:20,22	20:14 23:1,13	tech 106:15
112:11 113:10	39:8,11,24,24	tackling 62:22	34:5 51:8	128:9,11,12
113:23 114:10	40:7 42:3 43:3	tail 38:3	59:21 63:5	technical 6:20
114:11 115:11	43:20 44:1,4	take 5:11 10:7	88:21 113:7	96:22 103:9
118:1 121:3	44:19 45:14	15:6 17:13	118:16 131:9	104:5 106:24
128:2 130:4,25	46:10 47:3	19:15 21:16	131:10	124:9 132:19
131:9 133:14	54:10,16,17	22:21 25:5,12	talked 14:14	technically
134:19 138:20	55:19 59:2	26:22 27:1,5	15:18 31:22	80:21 150:21
145:21,24	68:24 76:19	29:25 30:13,23	47:7 72:17	technology 3:2
146:24 149:2,8	77:19 79:4,13	31:23 32:15	73:18 75:21	13:1 18:6,6,6
150:14 151:6	79:13,14 83:14	35:6 36:9,17	89:3 112:11	28:2 29:5,7
surprise 35:21	84:24,25 87:14	36:22,23 37:2	133:23 134:22	30:5,7 31:24
139:21,21	88:25 93:25	39:16 42:10	135:2,5,5	32:9,9,13
surprised 50:2	94:2,4,10,10	47:1 49:24,25	talking 13:17	35:11,14 36:20
64:13 136:6	94:12 95:15	52:18 54:8	25:16,17 40:1	36:23,24 40:4
surprises 120:5	99:9 101:3	55:7 63:17	43:16 47:9	40:6 61:19,21
surrounding	110:19 115:20	65:13 80:23	54:20 56:20	61:23 62:8,10
11:11	118:7 119:1	81:14 82:19	57:5 58:7	63:18,22 64:24

75:9 81:4 93:5	54:6 59:22	13:4 15:13	think 5:1 10:22	85:11,12,18
93:11 97:18	61:25 63:7	17:9,19,25	13:12,25 14:10	86:4,6,8,12,13
98:11 107:6,16	67:14 92:3	20:19,20 21:3	14:19,20 15:9	87:22 88:3,4,4
107:18 111:8	93:18 95:6	22:19 23:19,20	16:6,21 18:9	88:12,19,24
117:6 127:23	96:6 102:25	25:3,4,8,11,12	18:24 19:9	89:7,11 90:4,7
128:22,22	108:17 111:8	25:12 26:14	20:10,18 21:1	90:9,11,12
140:10,11	111:21,22	28:22 31:13,23	21:24 22:22,25	91:4 92:13,13
teeth 119:11	terrible 81:25	32:1,8,16,16	23:24 24:1,5,6	92:23 93:13,14
120:11	test 29:15,17	34:19 35:4	24:8,9,10,12	93:21,23 94:1
Teledyne 123:5	30:16,17,18	36:19 37:11	24:15,16,20	94:5,7,18,22
telephone 105:3	32:11,18 38:7	38:20 39:7,21	25:2,3,5 26:21	94:23 95:8,14
150:15	testimony 142:2	40:13,17,20	26:24 27:5	95:18,21,25
tell 23:5 42:1	testing 48:18	41:9,24 42:9	28:5,7,14,16	96:13 97:14,17
43:6 59:16	tests 30:13,14	42:17 43:10	28:21 29:3,10	98:9 99:6,13
72:23 73:18	thank 4:19 6:18	45:1 48:16	29:21,22,23	99:14,14,16,17
78:3 81:1	10:18 21:18	50:25 52:12	30:1,14,19,22	99:20,22
85:21 86:3	22:7 65:17,25	53:20 54:14	31:13,23 32:3	100:16 101:10
91:19 92:10	84:15,18 108:8	55:6,24 56:4	32:7,19,20	101:11,12,14
94:11 95:2,21	108:11 109:3	56:13 57:3,15	33:4,21 34:1,3	102:6,9,19
95:22,22	126:1 140:18	63:19 64:3	35:2 36:9,16	104:20 106:3
136:13	144:13 147:3	67:15 69:9	36:17,22 37:1	106:12,17,20
telling 72:22	152:4,5	70:17,20 71:9	37:12,14,18,24	106:22 107:4,4
87:21	thanks 34:9,10	71:14 73:15	38:16,18,21,21	107:5,18,21,21
tend 29:6 41:8	108:24 126:3	74:4 77:4,15	42:5,15,19,22	107:23 108:3,4
43:15 57:20	theme 112:15	77:25 79:1,6	43:20 44:3,6	108:5,17
75:8 126:15	themes 8:19	79:16 80:6	46:7 48:7,21	110:18,21
141:19 147:24	they'd 85:16	81:20 84:21	49:14,22,22	111:24 113:19
tendency 150:21	thignsn 65:5	85:18 87:4	50:5 53:9,15	114:4 116:3,4
151:21	thing 4:25 23:25	90:3 93:1	53:17 54:14,17	116:12,14,21
tends 14:19 16:3	25:22 27:16	94:11 97:13,24	54:23 55:6	117:3 118:17
38:7 126:24	28:1 29:13,22	98:1,14,21	56:25 58:23	120:9,12,13,24
Tennessee 48:18	32:11 35:8,11	103:19 106:17	59:6,15 60:3,5	121:14 122:1
tension 34:18,19	36:10,13,15	106:19 107:19	60:21 61:1,3	122:23 123:1,8
34:25	37:19,23 44:3	107:23 108:24	61:20 63:14	123:10 125:1
tentative 143:16	48:8,21 51:14	111:12,22	65:14,20,21	125:10,20,24
term 52:18,20	52:4 54:1	114:18 116:13	67:8 71:4,14	128:10 129:7
53:1,6,9 61:15	56:17 63:25	118:4 120:21	71:15,24 73:11	130:19 131:18
62:1 145:13	64:21 70:14	125:2,12	74:10,11,12,13	131:21 133:6
terminate 90:2	76:23 79:7	126:24 127:7,7	74:14 76:4	133:18,21
91:9,10	81:7,8 89:24	127:9 128:1	77:1,2,5,12,13	134:6,7,17
terminates 90:1	93:12,16 97:7	133:7,10	78:10 79:15,17	135:6 136:17
terms 12:15	128:3 132:10	136:21 137:1	79:19,21 80:3	137:6 138:3,20
17:19 18:11	133:5,8 138:21	137:12 141:5	80:4,14 81:9	138:21 140:6
39:4 47:17	138:22 141:12	141:19 143:21	81:10 83:21	140:16,22,23
50:5,23 53:23	things 7:15 13:3	145:9 149:1	84:7,7,8 85:8	140:24 141:3,4

141:14,20	77:24 83:4	144:8 147:2,8	tons 120:18	63:21 78:15,17
142:19 143:18	88:14,16 105:6	151:7	tools 51:21	84:24 85:12
143:21 144:10	109:23 110:24	timely 2:11	127:9	94:12 105:15
144:19 145:14	113:15 119:25	times 17:1 30:16	top 12:24 25:18	105:17 118:14
145:17,25	134:9 147:9	48:5 65:10	26:9 45:21,23	120:7 146:5
149:17 150:3	thresholds	81:2 119:12	45:25 90:25	trait 49:13
150:16 151:11	146:10,10,11	121:15,22	100:10 122:14	transferred 87:7
151:20	thrust 35:12	126:25 151:5	125:25 148:8,8	transition 35:23
thinking 47:23	Thursday 1:9	tinker 116:18	top-down 43:7	transpired 7:23
53:9,13 95:6	TI 69:10	tissue 24:15	43:18	trap 135:18,18
113:10	tied 68:20 96:13	Titan 86:24 87:7	top-heave 25:13	treated 16:16
thinly 118:6	tier 75:7 76:1	87:8,9,11	total 9:7 13:8	74:25
third 63:23	142:1 143:12	Titan's 87:1	16:10 18:1	trees 119:17
68:19 75:7	tiger 148:13	today 4:22 11:23	21:12 44:3	145:7
76:1 77:23	tightened 69:23	13:18 21:22	48:22 103:1,17	tremendous
98:15 109:8	tightly-confined	25:14 30:11	103:20 104:10	126:19
143:11	133:7	33:24 36:19	totally 75:14	trenches 78:12
third-world	tilt 110:6	37:10 38:4	92:23	trend 8:10,17
96:24 97:15	time 2:6,9,13	39:2 40:8	touched 123:13	17:11 18:9
Thirty-three 8:8	3:17 4:18 5:11	44:10,21 54:1	tough 109:2	trends 8:13 9:14
thought 10:24	7:5 9:10,23	54:10 61:22	tougher 31:9	tried 27:25
15:8 22:14	11:2 12:13	62:11 65:18	128:6	75:22 84:2,4
23:7 30:9 36:7	15:2 16:19	83:22 87:6	TPSR 70:15	107:8 109:24
36:8 40:3	19:16 21:20	96:7 100:15	track 8:19	141:17 143:21
45:23 54:9	25:23 27:5	101:1 109:22	trade 7:25 8:3	tripled 119:25
57:17 113:6	29:25 32:25	117:12 120:2	9:8 10:14	trivial 10:21
134:20 136:3	33:11 34:18	121:8 123:3	traded 139:19	trouble 49:19,21
141:15 144:25	38:25,25 39:22	127:8 136:24	trades 39:5	55:20 64:6
thoughts 22:9,9	42:1 52:14	143:16 149:13	trade-off 90:23	77:6 84:7
34:25 45:16	53:22 60:23,24	152:4,6	trade-offs 33:3	89:20 91:24
53:8 58:4 61:3	63:15 64:14	today's 53:4	104:11	92:2 95:1
77:7 113:8	67:9 68:21	91:11 119:8	traditional 5:6	101:18,19
129:20	69:1,19 77:21	toes 116:6	128:24 129:2,5	102:3,5,14
thousand	80:4,5 87:18	toilet 40:12,14	traditionally	103:6 151:19
133:25	88:15 91:8	40:15	12:6 17:3	troubling 70:13
thousands 54:1	96:10 100:8	token 18:12	40:11 54:9	true 25:17 38:6
thread 44:25	101:12,23	told 5:22 47:16	train 23:20	43:21 54:21
threats 14:1	102:10 108:8	50:20 94:13	24:18 34:3	truly 22:16 56:2
three 7:1 11:5	108:10,20,23	107:9 138:1	105:22	85:13 129:14
23:17,20,23	117:1 118:13	tolerate 89:21	trained 105:19	truth 149:25
25:25 31:23	121:14 123:9	90:6	trainer 33:10,19	TRW 70:1,3
32:1 41:11	123:11 125:3	tomb 88:2 94:18	78:20	try 8:13 36:20
43:8 44:15	125:10 127:1	tomorrow 53:3	training 18:16	44:12 55:8
54:4 63:19,21	127:20 128:14	53:5	24:13,14 26:18	58:15 67:17
70:9 75:2	129:18 130:10	tone 5:10	27:6 33:11	68:15 69:13

73:4 96:16,17 107:1 114:12 114:19,21 115:13 127:1 141:15 148:3 149:3 trying 8:19 28:4 38:2 42:24 44:10 59:8 67:17,23 76:9 81:24 84:11,12 102:11 105:23 120:22 121:16 126:10 132:6 142:9 TSPRs 75:24 Tuluhuma 48:17 turbine 3:10 turboprop 33:20 turboprops 33:16 turn 4:16 17:9 59:14 81:16 83:23 105:10 110:14 turndown 59:17 turned 94:1,17 turnkey 76:12 twice 38:5,6 twist 113:13 two 7:6 16:8 17:1 22:19 23:22 25:25 26:1,11,14 40:5 44:15 50:9 54:4 56:20 58:11 60:8,9 63:21 65:20 70:24 73:6 74:11 76:8 81:6 83:4 88:23 99:1 100:5,5,12 105:20 110:7	113:19 120:21 148:1 150:2 two-page 105:9 two-way 95:24 type 39:10 54:1 54:2 61:25 101:7 138:9,18 143:8 types 67:15 121:20 127:24 141:22 typical 88:11 typically 147:6 148:21 T&E 33:1 <hr/> U UAV 97:10,11 UAVs 122:25 123:2 129:6,11 UDI 110:7 124:18 ultimate 38:8 137:12 ultimately 63:2 112:19 113:17 116:11,22 118:18 121:11 121:15 124:10 134:24 148:7 unbelievable 36:5 unclear 113:3 uncooled 97:14 undefined 116:2 underestimate 45:8 underestimated 41:22 understand 10:23 11:21 13:16 21:15 47:8 61:5 67:16,17 110:13 132:19	150:14 understandable 20:23 understanding 43:4 93:22 understands 110:22 undertaken 5:6 underutilized 57:11 underway 23:23 24:6 32:2 55:23 uneven 122:12 unfairly 75:8 unfortunately 117:12 151:13 151:19 unified 52:14,20 uniform 17:7 140:9 unions 8:3 9:9 unique 10:13 15:14,21 17:19 17:20 114:10 138:11 unit 117:6 146:14 United 18:4 56:7 58:25 138:25 unraveling 56:6 unrealistic 145:16 unsaid 39:17 unused 57:10 unusual 111:1 147:10 update 4:25 6:16 8:8 upgrade 32:8 urge 122:3 use 2:18 13:17 15:17 18:1 44:23 45:4 52:2,5 95:13	96:20 103:14 108:6 117:22 118:12,19 130:20 131:15 144:1 146:25 user 80:16 user's 82:17 uses 131:18 usual 108:5 151:24 usually 129:11 utmost 117:19 U.K 96:21 97:7 109:18 110:6 139:5,5 140:7 U.S 55:10 64:9 77:5 96:14,25 97:1,11,11 98:5 99:7 109:9 138:14 138:17,22 139:6,18,24 <hr/> V VA 1:15 valid 123:24 value 5:8 29:5 57:21 60:14,16 61:1,4 71:6 86:1,10 142:13 143:5 variety 109:25 141:23 142:20 various 13:15 103:19 104:8 111:4 118:11 118:15 119:12 121:4 143:6 vary 115:11 vehicle 60:19 91:13 137:22 vehicles 48:11 59:2 124:21 vendor 68:4,24 69:11 70:20	71:4,8,16 72:11,12 73:15 75:23 76:6,14 77:1,4 78:25 79:15 88:19 91:5 vendor-based 74:21 vendor-type 69:2 veneer 150:5,6 Venn 12:3 14:15 venture 76:10 version 134:8,8 134:10 150:1 versions 36:14 versus 31:10 90:22 vertical 76:3,6 76:13 84:9 vertically 54:5 70:12,19 71:17 132:1 vested 132:1 vetting 131:17 vibrant 130:2 131:2,2 vice 4:5,7 view 15:22 45:6 51:24 60:10 65:17 112:6 115:23 117:2 142:18 viewpoint 5:12 views 19:3,4 34:5 65:12,12 109:6 110:23 violently 89:5 virtually 123:3 134:14 vision 61:3 VisionAire 4:14 visual 128:1 vital 107:20 vitality 126:22
--	--	--	--	--

volume 20:20	war 53:3,3,5	121:7 122:2,10	112:7	107:17 108:15
vulnerable 41:2	80:16 91:21	122:11,24	well-served	108:18 109:10
139:18	117:17 121:14	127:16,17	137:17	109:13,19
W	121:17,25	128:19 132:20	went 28:3 30:8	110:2,3 111:17
Waco 86:20	warfare 143:16	136:22 137:12	33:12,18 36:3	112:23 113:3
wait 35:12	Warner-Robins	138:4,16 139:2	36:6 40:6,16	114:3 117:22
117:14 136:11	145:1,3	139:7,11,25	44:9 68:8	118:3,10 121:7
waiting 62:5	wash 7:21	145:5,23 146:3	69:18,20 75:12	121:22 122:9
85:7	Washington	148:4,9 149:4	84:24 94:7	128:24 130:17
walk 3:23 71:11	10:1 80:6	149:16 150:5	96:23 99:17,19	130:20,20
96:2	101:11 102:11	151:20 152:1	100:25 101:23	131:18 134:1,7
walked 25:9	139:17	ways 22:16 35:1	107:12,13	134:13 135:10
42:2	wasn't 33:10	55:17 90:24	108:3 126:14	135:18,25
want 4:16 11:24	35:15 36:11	110:24 122:19	weren't 70:23	136:19 137:16
13:19 16:5	40:6,14 70:22	143:6	78:7 83:7	138:10 139:17
17:10 20:14	97:4 100:1	weak 101:7	93:12 100:17	139:20 141:2
28:9,15 34:4	142:2	wean 125:5	we'll 6:1,2,5	142:4,6,7
37:18 38:3,8	waste 52:10	weapons 31:22	12:25 21:21	144:23 148:12
41:3 43:2,6,24	108:23	37:9 83:14	55:8 65:25	148:14 152:8
47:10 49:6	watch 99:6	95:15 97:16	69:23 85:7,7	we've 9:1,2,16
52:25 53:14	watchkeeper	99:8 116:5	108:12 110:16	10:10 12:11
56:16 61:12	96:22	118:7 133:3	144:2 149:3	13:5,7,21 19:7
65:17 81:21	way 10:23 13:20	135:11	we're 5:11 9:13	25:9 26:15,15
83:15 85:20	14:22 17:2	web 19:6	9:15,21 10:11	26:16,17,18
86:15 87:13,21	19:1 20:6,9,12	website 123:22	10:23,24 12:13	27:21 28:18
87:24 91:2,10	20:22 22:2,20	wedded 119:15	13:17 19:10,21	37:11 38:24
93:3 94:5 95:9	28:5 32:8 33:2	wedge 113:2	20:5,8,9,11,19	39:11 41:17,22
95:18 96:15,15	41:8 42:10	week 5:13 6:4	31:9 32:12	42:13,14 43:22
97:19 99:3,7	45:17 46:1,17	53:5 148:21	33:25 34:10	47:7 53:24
99:11 110:13	46:25 48:8	weekends 149:5	36:19 38:10	54:21,25 56:17
110:13,14,14	49:1 50:6,16	weekly 104:16	39:7 40:8	58:11 63:22
116:7,8 129:3	50:24 52:25	105:8	43:10 51:14	69:19,21 70:10
130:22 135:19	53:15,16 54:8	weeks 13:1 99:1	54:1,20 55:1,9	72:17 73:6
136:9 149:19	55:12,13 61:5	105:5	57:16 64:6,17	80:22 81:16
151:3,13	65:25 71:15	weigh 31:6	64:18,18 65:3	83:25 92:16,21
wanted 13:18	73:1 74:6	weights 120:17	65:5 67:11,17	92:22 99:2
30:5 48:24	78:18,18 81:9	weight 37:3 93:9	67:18,23 75:1	102:9 104:18
57:1 68:18	83:21 85:1,7	weighted 114:21	76:4,4,23 78:4	107:8 109:14
69:6 93:4	87:9,15 88:16	weighty 28:19	80:25 83:22	113:1,2 119:13
94:16 150:24	93:23 94:7,12	weight-restric...	84:13 86:16	128:1 129:9
wanting 33:15	94:13 99:19	133:8	87:9 90:25	130:18 134:1
wants 41:15	102:6 104:13	welcome 21:21	91:3,20 92:8	134:15 135:19
48:4 99:10	104:19 109:6	22:6 108:10,24	92:23 97:1,13	136:2 139:10
100:4	111:11 112:3	109:21 152:2	98:9,10,11	139:12 143:21
	115:17 118:20	well-formed	99:10,16	146:4 148:15

148:22 whatsoever 122:13 what-not 61:14 white 83:20 wholly-owned 109:19 139:18 wife 43:6 willing 25:20 90:4 115:15 131:8,11 151:23 willingness 42:20 Wilson 1:13 win 72:5 78:20 80:13 86:9 114:2 123:25 124:3 135:19 winner 86:2 wins 86:9 88:5 wisdom 112:7 wise 89:21 wish 87:19 91:11 withholding 48:13,13,24 Wizard 123:21 womb 88:2 94:17 women 140:9 won 55:3 wonderful 39:20 wondering 144:15 wood 150:6 word 67:13 143:1 150:13 words 42:25 77:20 148:14 150:11 work 11:10 18:5 36:14,15,21 38:20 45:2 46:19 48:16	63:17 72:22 84:5,21 95:15 95:22 103:4 104:6,22 105:14 107:3 110:4,9 111:5 113:3 115:19 116:3 117:6 118:14 119:21 121:5 122:9 133:13 134:16 141:7,9,13 143:8 144:16 152:3 worked 35:21 36:4 68:9 71:20 146:1 workforce 16:1 16:2 working 5:14 7:8 20:9 22:10 64:18,18 65:5 103:11 149:13 works 110:11 111:7 117:10 119:24 world 24:3 39:19 64:16 65:1 90:20 91:11 97:12 99:11 109:9 111:8 112:16 134:5 worldwide 99:8 worried 62:23 86:25 worse 73:7 wouldn't 45:16 52:2 57:12 132:16 136:5 wow 91:13 wrap 6:1 Wright-Patter... 80:24 write 2:8 149:23	writers 149:17 writing 149:19 written 52:11 91:14 123:17 wrong 16:17 67:13 74:14 77:4 87:3 92:22,22 103:23 107:4 114:19 131:19 wrote 77:20 Wynn 71:20 73:3,20 76:24 101:21 Wynn's 77:16 <hr/> X X 46:12 XYZ 52:1 <hr/> Y Yates 34:6 Yeah 79:5 year 12:12 41:18 46:4,23 48:21 59:18 69:18,20 69:22,23 71:21 77:21 93:12 111:16,20 120:3 124:22 127:2 years 13:6,7 22:12 26:15 39:12 40:25 41:25 42:14 43:8 44:13 50:9 61:17 62:24 70:10,18 71:9,25 72:19 74:19 75:24 76:11 77:5 81:13 84:1 88:14,16 93:7 93:17 94:15 98:7 105:20	107:20 109:15 111:19 118:7 119:25 141:16 147:10 yellow 105:10 Young 3:13 <hr/> Z zero 49:11,15,22 82:21 <hr/> Æ æ07 93:12 æ08 93:12 æ80s 39:10 143:1 æ85 101:2 æ88 63:9 <hr/> \$ \$1 63:8 105:1 \$1,000 31:1 \$1-1/2 105:1 \$1.7 111:15 \$10 109:10 \$100,000 40:12 46:6 \$11,000 40:15 \$12 69:24 \$15 105:6 \$150 99:21 \$2 41:18 46:4 86:20 95:3 \$2,000 31:4 \$20 99:21 \$200 48:21 \$25 107:12 109:18 \$30 99:21 \$300 40:12 \$4 41:18 \$5.8 111:18 \$50 69:4 \$500 69:22 \$500,000 46:5,6 \$8-1/2 69:22	\$9 69:22 75:15 <hr/> I 1,000 58:19 1:00 5:20 65:25 67:2,4 10 1:9 42:11 62:24 68:16,20 75:23 77:5 82:22 90:9 93:17 95:17 107:20 118:6 122:6 130:9 10-minute 6:24 10-year 68:23 78:24 10:00 21:17,17 21:21 10:30 5:18 15:7 100 9:22 89:18 90:14,22 11.5 90:17 12 9:2 90:17 13 130:12 132 44:5 15 8:3 39:12 62:24 74:19 90:9 111:19 15-minute 21:16 1560 1:13 16 39:19 16s 39:20 1980 38:25 1985 38:25 53:25 1995 69:1 1997 68:6 <hr/> 2 2,000 58:19 2:30 108:12 20 81:13 82:8,9 82:9,23 136:12 136:13 200 90:14
---	--	--	---	--

2005 1:9 31:21	5000 24:24			
2006 59:17	55 16:9 20:8			
2007 59:15,19				
22209 1:15	<u>6</u>			
25 44:13 53:25	6 83:25 148:23			
71:25 104:5	6.1 63:6,10			
<u>3</u>	6.2 63:6			
3 69:18 141:16	6.3 63:6			
148:23	60 135:24			
3,000 132:25	136:12			
3-D 128:1	600 58:17			
3:00 5:25	648 44:6,9			
3:45 152:11	67 7:9			
30 13:6 57:6	<u>7</u>			
152:8	7 8:3 95:17			
300 130:13	111:19			
32 135:6	70 69:25			
33 8:8 22:12	70-plus 69:19			
<u>4</u>	732 44:7			
4 48:20 98:7	74-question 7:8			
141:16	750 44:8,9			
4-2-1 122:20	76 104:18			
4:00 6:2 152:10	777 139:11			
40 57:6 71:9	<u>8</u>			
100:20 135:25	8 73:5 83:25			
136:12,12	130:9			
139:22,22,23	802 28:3			
400 130:13	82 135:12			
404 1:13	85 49:18,21			
43 8:2,25	<u>9</u>			
45 139:20	9 8:2 73:5			
<u>5</u>	9.5 90:17			
5 42:11 77:5	9:00 2:2			
83:25 98:7	90 7:4 31:25			
111:15 118:6	49:18 110:4			
134:14 141:16	93 7:24 8:15			
5-year 11:16	95 130:11			
50 49:23 79:4				
82:10 90:10				
94:14 142:5				
50,000 130:19				
50-year 88:1				
500 130:13				