

**THE SIXTEENTH GILBERT A. CUNEO LECTURE  
IN GOVERNMENT CONTRACT LAW<sup>1</sup>**

LIEUTENANT GENERAL PAUL J. KERN<sup>2</sup>

I have most often been a consumer of law rather than one who gives advice on its use, although I did start my career with some legal training. There probably aren't too many people left in the Army who will remember that, years ago, second lieutenants used to have "other duties assigned" as either a prosecutor or defense counsel. So it was with me. I did receive a little bit of education in law and found it very interesting to understand whether command influence had a bearing in life or not. I can tell you there were a few lieutenants I knew who prevented some colonels from being promoted. That was an interesting aspect of life back then.

But that is not the type of law I'm here to discuss today. I am here to discuss the wonderful world of procurement law, contract law, and fiscal law. I will begin by discussing the rapid evolution of procurement law. This discussion will be a backdrop for what the Army is doing today—transforming to meet the twenty-first century's National Military Strategy.

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1. The Gilbert A. Cuneo Chair of Government Contract Law was dedicated on January 9, 1984. Gilbert A. Cuneo attended St. Vincent College, Latrobe, Pennsylvania, and Harvard Law School. He received an honorary LL.D. from St. Vincent College in 1973.

After graduating from Harvard Law School in 1937, he was engaged in the private practice of law in New York City until entering military service in October 1942. From August 1944 to March 1946, he was a member of the faculty of The Judge Advocate General's School, where he taught the legal and accounting phase of government contract negotiation, termination, and renegotiation, and wrote a substantial part of the text entitled *Government Contracts and Readjustment*, published by The Judge Advocate General's School.

Mr. Cuneo served as an administrative judge with the War Department of Contract Appeals and its successor, the Armed Services Board of Contract Appeals, from 1946 to 1958, at which time he entered private practice in Washington. He served as Chairman of the Section of Public Contract Law of the American Bar Association in 1968-1969. Mr. Cuneo was an Honorary Life Member of the National Contract Management Association, a member of its National Board of Advisors and a recipient of numerous awards and citations from the Association.

A pioneer in his field, Mr. Cuneo wrote and lectured extensively on all aspects of government contract law for thirty years. As a commentator on developments in the field of government contract law and as a premier litigator, he shaped much of the present law of government contracts and was considered the "dean" of the Government Contract Bar until his death in April 1978.

I will then discuss the Army Chief of Staff and the Secretary of the Army's transformation strategy and the legal implications of that transformation. I am sure the Army will need the Judge Advocate General (JAG) community's help to solve some of those legal issues we are confronting today. Some of these issues Congress has laid out in front of us and others are the result of our own contracting efforts, which don't always come out the way we expect.

My first acquisition assignment was to the Bradley Program Office, and it was an interesting step for me. As a student at the Command & General Staff College at Fort Leavenworth, Kansas, I received orders assigning me to DRCPM-FVS. I asked, "what is that?" I didn't have a clue. I learned this was the Bradley Program Office and then spent three years in the program office just as it was going through an Army Systems Acquisi-

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2. As Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics and Technology, Lieutenant General Paul J. Kern is the senior military advisor to the Army Acquisition Executive and the Army Chief of Staff on all research, development and acquisition programs and related issues. He supervises the Program Executive Officer system, and serves as the Director, Army Acquisition Corps.

General Kern, a New Jersey native, was commissioned in 1967 following graduation from the United States Military Academy. In 1973 he earned Master's Degrees in Mechanical and Civil Engineering from the University of Michigan. His military education includes the Armor Officer Basic Course, Infantry Officer Advanced Course, United States Army Command and General Staff College, Defense Systems Management College, and a Harvard University Senior Service College Fellowship.

Prior to assuming duties as the Military Deputy, Lieutenant General Kern served as the Commander, 4th Infantry Division (Mechanized), the Army's Experimental Force. General Kern's career includes service as the Senior Military Assistant to the Secretary of Defense and Senior Military Assistant to the Deputy Secretary of Defense; Military Staff Assistant, Defense Research and Engineering for Test and Evaluation, Office of the Secretary of Defense; Director of Requirements (Support Systems), Office of the Deputy Chief of Staff for Operations and Plans; Team Chief, Light Combat Vehicle Team, Office of the Deputy Chief of Staff for Research, Development and Acquisition; Program Branch Chief, Bradley Fighting Vehicle Systems; Commander, 5th Battalion, 32d Armor, 24th Infantry Division, Fort Stewart, Georgia; Commander, 2d Brigade, 24th Infantry Division at Fort Stewart and Southwest Asia during Desert Storm; and Assistant Division Commander of the 24th Infantry Division at Fort Stewart. General Kern taught weapon systems and automotive engineering at the United States Military Academy and was the department's research officer. He also served two tours in Vietnam with the 11th Armored Cavalry Regiment as a platoon leader and troop commander, and as a battalion operations officer with the 3d Armored Division in Germany.

tion Review Council (ASARC). That was my first encounter with acquisition law.

I arrived at the program office in 1979. At that time there was a law on the books stating that if the Bradley program didn't begin production of the Bradley Infantry Fighting Vehicle by 1980, then it could not be produced. The Bradley program conducted a series of reviews designed to put the Bradley into production as Congress directed (because the Army couldn't make up its mind).

The Bradley program actually began in 1963. I joined it in 1979. The program started out in 1963 as the Mechanized Infantry Combat Vehicle—the MICV '63. During the same period, the Army started another program called the Army Reconnaissance Scout Vehicle (ARSV), which had two competing variants—wheeled and tracked. The Army made several attempts to consolidate the MICV '63 and ARSV programs only to split them apart each time. By 1979, Congress had grown weary of the Army's indecision. Congress then said to either get on with it or forget it. That is when they set the 1980 production deadline. This was my first encounter with the legal and acquisition processes intersecting.

The second encounter was a more interesting one for me. I was directed to report to Aberdeen Proving Ground with an Air Force colonel named Burton in order to observe the Bradley live-fire testing. I wondered why an Air Force colonel was testing an Army vehicle. At the conclusion of the live fire testing, I reported to General Merryman, who was the Deputy Chief of Staff for Research, Development, and Acquisition at the time, to back brief him on the test. Coincidentally, Colonel Burton was working in the same office in which I would work years later—the Defense Research and Engineering for Test and Evaluation, Office of the Secretary of Defense. That was the second set of legal issues that I got involved in which defined acquisition. The event led to the laws under which we must conduct live-fire testing today.

I could relate many stories that demonstrate the link between the law and acquisition. Mr. Norsworthy<sup>3</sup> could probably tell you a few dozen that

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3. Levator Norsworthy, Deputy General Counsel (Acquisition), Office of the Army General Counsel, serves as a legal advisor to the Army Acquisition Executive.

I've asked him to solve over the last couple of years. I'll mention some of those stories in context during today's lecture.

Acquisition has always been exciting and interesting for me. I really think that the acquisition community has a great deal to contribute to the future of the Army. My experience has been that most of the Army is focused on what is happening today: the readiness of the Army to meet its mission requirements, to fulfill the Regional Commanders-in-Chiefs' (CINC) requirements around the world, and to carry out what we are directed to do under U.S. Code Title 10—to raise, train, and equip the Army.

What does that leave for us? Our responsibility is not only to the Army of today, but the Army of the future. We have been blessed with a pretty good Army in the last half of the twentieth century. Our challenge is to make sure our future soldiers inherit an Army that is equipped to do the job that they are asked to do. That means we are asked to put on our thinking caps, to look into that crystal ball and try to figure out what the Army of tomorrow should be like. What I want to show you is the path I believe we are on today. A lot of it isn't crystal clear, but we have to crystallize it soon with some good ideas.

You will be challenged in areas of intellectual property rights for which there is no case law. Information technologies are abounding now, but when current case law was written, there were not a lot of microprocessors in use around the world the way we are going to use them in the future military. We will have to figure that out.

One of the major issues on the table today concerns information security. What are the security requirements for a tactical Internet? Who is going to be allowed to use it? What information will travel across the tactical Internet? We are going to have all sorts of interesting discussions about that. It seems very easy to secure information when it is written on paper in black and white. It is an altogether different matter when that same information is located on a disc drive. Imagine the legal records you are going to have to reference in the twenty-first century. How much of the information on that tactical Internet disc drive needs to be saved? Where do you save it? Who is responsible for it? How do you refer to it? Who has access to it? What happens when the information is never delivered to its intended recipient, but just gets stored in the ether somewhere, never quite making it because the electrons get lost? I know it is hard to believe, but sometimes out there in that great ether, electrons never make

it from the sender to the receiver. I am sure the electrons are out there somewhere and I am equally sure that some electrical engineer can prove that they really aren't lost, but we argue an awful lot about what happens in those lines of code and where the information goes when the electrons are misdirected.

Another set of issues that we deal with is the business of testing. Airplanes fly today based on a model. When the Wright brothers attached a cable with some levers back to a control surface, it was pretty easy to figure out that when they pulled on a specific lever, a control surface moved, and the aircraft moved up or down, left or right. Today, that lever isn't attached to any cable; it is attached to electrons. A model designates what a specific surface will do. In some cases, one only need enter flight instructions into a computer and the plane responds to the inputs. Who really is flying that machine? You can take that on to the next step as we move to unmanned vehicles and try and determine the legal responsibilities [for] these systems, particularly if we use them in lethal roles. There is going to be a whole new set of issues that emerges as we develop these weapon platforms of the twenty-first century.

With that introduction, I'll begin the main theme of my presentation. The presentation will cover some history and it will explain where the Army is headed. It will also show that, even though times have changed, many of the issues we are dealing with today are not new. Whether it was General Washington equipping and supplying the Revolutionary Army or General Shinseki developing equipment for the Objective Force in the Information Age, many of the same issues still apply.

Today, we move into the twenty-first century, but we are still trying to solve the same problems of equipping our armed forces and doing it legally. It is interesting to go back and look at the history of materiel acquisition. When Washington crossed the Delaware in 1792, the Treasury Department purchased War Department supplies. You can imagine the difficulty that caused. In 1798 the War Department and the Navy Department were given authority to procure their own supplies. That was probably the first set of legal issues that were raised as our forefathers identified the Executive Branch roles.

In 1809 the first federal statutes requiring advertising were written. You can all imagine the discussion that took place when people realized they could no longer buy from familiar contacts or friends, regardless of who had the "best" deal. The War Department began trying to figure out

how to get the best supplies for the armed forces and how to do it in a fair and equitable manner. The next step in the procurement evolution was the introduction of sealed bids. The government was required to advertise once a week for four weeks and award the contract to the lowest bidder. There were also some constraints inherent in the sealed bid process. Sealed bids had to be opened in the presence of two witnesses and even more constraints were put on top of that. Over time, one can see that new laws were written, usually in response to abuses of the system. The Army then went to abstract bids in 1843, and advertising sixty days before presenting a bid opening became a requirement in 1852. During the Civil War, purchases and contracts for supplies and services in any department of the government required advertising. Another interesting aspect that came into play during that period of time was the fact that most Civil War logisticians were contractors. All those muleskinners that brought supplies forward were under contract to the Army Quartermaster. Much of the Army's medical support during the Civil War was contracted as well. So our current efforts to deal with contractors on the battlefield are not new. They have been around for a while.

The year 1876 saw the first codification of the United States Statutes and the use of sole source exceptions in procurement. Occasionally today we see sole source exception requests.

World War II brought some significant changes. Less than two weeks after Pearl Harbor was attacked, the Congress enacted Title II of the First War Powers Act of 1941. This Act authorized the President to empower agencies connected with the war effort to enter into contracts without regard to existing provisions of law, wherever such action was deemed to facilitate the prosecution of war. Clearly a different set of criteria applied during this period because the entire country was brought to a war-time footing. Following World War II, procurement law as we know it today began taking shape as outlined in the Armed Services Procurement Act in 1947.<sup>4</sup> This Act removed almost all of the exceptions that had been granted during World War II and required advertising of all procurements unless authorized otherwise by seventeen specific exceptions. In 1984, procurement law continued to evolve with adoption of competition in con-

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4. Armed Services Procurement Act, 10 U.S.C. §§ 2202, 2301-2314, 2381, 2383 (1948).

tracting as outlined in the Defense Acquisition Regulation (DAR). The DAR has since been replaced by the Federal Acquisition Regulation.

Now, it is always interesting when I talk with young contracting officers about the benefits codification provides them when they are deployed to places like Bosnia, Albania, or Central Africa. Just trying to get these guys to read the Federal Acquisition [Regulation] is a challenge in and of itself. Contingency contracting is further complicated by the fact that we often send our troops to countries where there is no history or knowledge of private contracts. In such cases our contingency contractors must teach those rules and regulations to those with whom they award contracts. In the Balkans the locals have quite a bit of contracting experience. In Hungary, there is a good understanding of how competition and capitalism work and they work within the system pretty well—they are very competitive. In Serbia however, where the people have been raised under communist rule, the local people, with whom contracting officers must negotiate, don't even understand the concept of a two-party contract. Their experience tells them their government must be a third party in the contract. They clearly don't understand why the U.S. Army has contracted with the low bidder, the United Kingdom, to rent trucks when there are local trucks available for the Army's use. That is the position we put contracting officers in today as we send them off to do contingency contracting.

We are doing certain things to make it easier for our contracting personnel. One of our initiatives is to make the contracting process paperless. For example, when a contracting officer hands over a computer disc to a contractor in Rwanda, I want to make sure that he accepts it and provides gasoline in return. Those are the kind of issues with which we currently deal on a daily basis. The better we try to define the roles, the more exceptions we find. We put people in impossible situations and expect them to succeed. That is the situation we live in today.

We have been through a lot of different changes for a lot of different reasons, most of the changes resulting from abuses of the procurement process. For that reason the government has tended to legislate or regulate almost the entire process. Having gone too far, the government recently began acquisition reform. That brief history brings us to where we are today.

As we look around the world we believe that in the near-term there is no major military competitor. The United States truly has the most profi-

cient armed service anywhere in the world today—Army, Navy, Marine, Coast Guard—you name it and we are the best. There aren't too many people who would argue against that point.

There is a very interesting book called *The Innovator's Dilemma*.<sup>5</sup> This book has nothing to do with war; it has to do with business. The book is based on two case studies in particular: one that deals with the steel industry and another that deals with memory storage for computers—specifically, hard disc drives. In both cases, when a successful company followed the advice of this country's business schools and the best practices for making a profit, it lost. In the steel industry, a small businessman started a junk business. Soon the man started looking at scrap steel and developed the micro-steel mills, which put the big steel industry in the United States pretty much out of business. The big businesses failed to heed the growing niche market that eventually overcame them.

The same thing happened with disc drives. The big drives were produced for the big main frames and with time they were developed to be more and more efficient. Then somebody came along with another storage device that was much smaller, but it wasn't very efficient. When all of the cost analysts looked at it, they said, "No, this doesn't enter into our profit picture, we aren't going to invest in that business." Low and behold those are the drives that made their way into the lap top computers and PCs and put all the mainframes out of business. The message for the biggest guy on the block is to be careful of the small guy.

There is evidence [that] suggests that the time to be most cautious is when someone, no matter how small, is going to find a way to defeat you. In the military we call it asymmetric warfare. From a legal perspective, if you happen to be the general counsel to the president of Sudan, what is the difference between a cruise missile destroying your neighborhood and a truck bomb destroying somebody else's neighborhood in another country? The results are the same. We really have to find out what that niche warfare is all about and try to understand the issues from the world's perspective, not just our own. What I am saying is that in the mid-term some of our competitors may emerge as asymmetric threats that expand their limited information warfare capability and open up a whole new set of legal issues with which we must deal. Information warfare is probably going to be the most legalistic warfare with which we have ever had to deal. We

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5. CLAYTON M. CHRISTENSEN, *THE INNOVATOR'S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* (1997).



must decide who will be allowed access to our information networks and how we will protect those networks. Information warfare will raise a whole new set of issues for us to solve.

In the far-term, a strong military competitor will emerge—history has taught us. Nobody stays on the top forever. We should expect that to happen. The question is how do we prepare for that?

In 1989, the Army was just looking to downsize its eighteen active duty divisions and ten reserve component divisions when Desert Storm put it all on hold. After the Gulf War we really did start coming down, and things started to change. Some would say that the Army didn't change quickly enough. Some would say that it still hasn't changed quickly enough, but it has changed. We now have fewer divisions. The Division XXI effort, which I had a hand in a few years ago, has resulted in the new heavy division design, which has taken those divisions from more than 17,000 people to 15,000 people. The new design takes twenty-five percent of the combat vehicles out of those formations, but the division will be more capable with far fewer people and equipment.

Light force modernization started last year [1998] with an effort called the Rapid Force Projection Initiative. We will look at it again during the Joint Contingency Force Advanced Warfighting Experiment (JCF AWE) in September 2000. The JCF AWE will bring a whole other set of Title 10 issues for the JAG community to consider. Another result of our light force experiments this summer is going to be the identification of the Joint Forces Command's role in designing the forces of the future (versus the Army, Navy and Air Force roles).

The bottom line is we have several issues to solve: our equipment must be more deployable, our modernization programs are stretched out (not very effective for what we really want to do), and we have a lot of equipment out there which is not being recapitalized. We have grounded every aircraft in the United States Army this past year at one time or another. For example, just this week the CH-47s were taken off the grounding for the first time in more than six months. The Apache fleet is grounded today because of parts that are wearing out (a clutch and a bearing). We have grounded the UH-1s twice this year. In fact, we should have retired the UH-1 fleet a long time ago. So now you realize that a great deal of recapitalization continues to be unfinanced. We must do more! It is not enough to say we have changed. We really are not ready to move into the twenty-first century because the U.S. Army is equipped and organized to

fight the Cold War. We still have Abrams tanks, Apache helicopters, Bradley Fighting Vehicles—all systems designed to fight the Soviet Union in central Europe.

Now, we have modified how we fight with this equipment to deal with the world as we find it today, but that is not the purpose for which today's equipment was designed. We have a seventy-ton Abrams tank that consumes five hundred gallons of fuel a day. That is reality. We have to change that. When General Shinseki assumed duties as the Army Chief of Staff, he told us the heavy forces must be more strategically deployable and more agile with a smaller logistical footprint. He said light forces must be more lethal, survivable, and tactically mobile. Achieving this paradigm will require innovative thinking about structure, modernization efforts, and spending, and I will tell you he sure was right. The transformation is going to take a lot of innovative work. We have a lot of people who are working literally day and night, seven days a week right now trying to figure that out. All the services are pretty much in the same boat. I have never seen a year like this one. It is the 9th of December [1999] and we don't have a budget. We are not even close to finalizing our budget.

The difference between the Army's Budget Estimate Submission (BES) that we delivered to the Office of the Secretary of Defense (OSD) in September and the Program Budget Decision<sup>6</sup> that we are working right now, is \$700 million. Moreover, to meet the objectives of the transformation strategy, the Army will need an additional \$3 billion. So you figure it out. The President's budget, on which I will provide testimony in a few short months, has yet to be created. That is the situation in which we find ourselves. I had lunch today with my counterparts in the Air Force and the Navy, and they are in the same boat as the Army. I have never seen it quite like this. So we are all going to have an interesting time of transforming our services and maneuvering our way through the intricacies of the law, and how we will legally reach our objectives. We do have guidance, however. The Joint Staff has published Joint Vision 2010. This Joint Vision

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6. The Program Budget Decision (PBD) 745, entitled Major Budget Issue—Army Vision, implemented the Deputy Secretary of Defense's decision on the major budget issues regarding the new Army Vision. The PBD adjusted the Army's Budget Estimate Submission (BES) for fiscal year (FY) 2000 so that it fell in line with the new Army Vision funding requirements. The Army had submitted the BES to OSD in September 1999, one month prior to the formal announcement of the new Army Vision. The PBD also aligned Army investment funding from FY 2004 and 2005 into FY 2002 and 2003. The final version, PBD 745R, is dated 11 January 2000.

has painted a picture for us all to follow and it is holding up pretty well as a way of building the armed forces structure.

For us to develop a full spectrum force, we have to make the light forces in the United States more lethal. We are not going to send the 82d Airborne Division into the Saudi Arabian Desert anymore as a bump in the road as we did during Desert Shield. We are going to send them in to be lethal and survivable. Early entry forces, whether they are the Army Rangers, an air mobile force, or an airborne insertion, must be decisive. They have to be able to survive, be lethal, and be decisive and today they are not. We have got to change that.

The heavy forces must be more deployable. There is much debate about the need for the Crusader, a self-propelled artillery piece. You will continue to hear debate on whether or not the Crusader is too heavy and about what the Army is going to do to fix it. The self-propelled howitzer that we have in the inventory today is the Paladin A6. The A6 is the sixth version of a system that was designed in the fifties. Clearly we need to modernize our critical indirect fire system.

Let me now explain how the Army is changing its investment strategy to meet its modernization requirements. Currently we are investing a lot in information dominance, moving ourselves into the Digital Age while moving out of the Industrial Age. A lot of money is being put in information dominance, fitting ourselves into the Digital Age, moving out of the Industrial Age. This includes how we use the microprocessor to help the soldier on the battlefield. A lot of money is going toward that effort. We have also invested quite a bit into overmatch capabilities. Recapitalization has been getting fewer, rather than more dollars. The Army's investment strategy changes as we move into the 2000 budget—a significant transformation from where we were just a few months ago. That is why today we don't have a budget that has been formalized with OSD. We have changed the funding focus to meet our requirements to develop the Interim Brigade Combat Teams, to recapitalize the legacy systems, and to pay for the science and technology efforts required to develop the Objective Force.

The Chief has directed us to consider wheeled vehicles for use in the Objective Force. Historically, the U.S. Army has not used wheels, we have used tracked vehicles. No matter how many times we have studied the issue, we always came up with the same answer—tracks. We are trying to put a competition together now that doesn't bias the answer. Some have a predisposed opinion that we need to develop a wheeled force. We are

going to need your help working our way through that. We also say we are going to buy vehicles that fit together as a set of vehicles. In the past we have always bought one system at a time. This time we must develop a request for proposal which focuses on our ability to get off-the-shelf equipment that meets our lethality and survivability requirements without bias. That is the challenge I have given the contracting officer. Is there anyone here from the Tank and Automotive Command that is going to solve that one? That is what we must do in the next month or so.

The Army has set a path for itself to meet its modernization goals. The first effort is to digitize III Corps. The 4th Infantry Division will be the first digitized division. The 1st Cavalry Division will be next and the rest of the III Corps elements will follow it. Digitization is the process that has been ongoing with our heavy forces to make them fit into the Information Age. Next we must continue the light force experimentation such as the JCF AWE that will be conducted by the Joint Forces Command. We must develop the Interim Brigade Combat Teams as our contingency brigades. This is the effort that will take place at Fort Lewis and also includes our effort to accelerate procurement of the Interim Armored Vehicle.

Just one year ago we were working on an Army-After-Next concept, which was focused on the year 2025. The Training and Doctrine Command was working on a mission needs statement which was focused on the year 2018. General Shinseki took over and said, "No, 2012 is where I want you to focus." More recently the Chief has said that 2012 is not fast enough so our top priority is to accelerate the development of the future combat systems.

A joint transport rotorcraft is another item on our modernization path. Currently there are no new helicopters in development in this country, with the exception of the Comanche. We are still trying to determine whether future air transports will be a rotorcraft, as we know them today, or a tilt rotor like the V-22 [Osprey]. Once that is decided, we still must integrate air transport with the other future combat systems of the Objective Force so that the force is both strategically and tactically mobile.

The Defense and Army Science Boards have conducted numerous studies showing that the Air Force's heavy lift capability pales in comparison to what is available in the commercial sector. If you have dealt with any of the aircraft agreements, you know that we have already had some issues there. Suppose we decide that it is necessary to rely more heavily on commercial lift. How will we do this? There are some real challenges

for us to make the law and the requirements come together in this area, but it is clear that if want to deploy our forces quickly in the world today, we must use commercial lift. So we had better figure out how to do it.

We are also looking at heavy lift systems. Lockheed-Martin has come in and shown us a proposal they are working with Federal Express, on a non-rigid body lifter that will carry a million pounds at a speed of one hundred and fifty knots. The new lifter will be faster than a ship, but slower than a C-17. A million pounds in one lift changes the dynamics a bit. This aircraft is to be developed as a commercial lifter, built for the Federal Express [corporation], not for the U.S. Air Force. We are going to have to work through that.

The last item on the modernization path is recapitalization of the legacy force. Recapitalization may be the biggest challenge that we face today because we have a fleet that is aging to the point where tank engines are about one third as efficient as when they were first put into the systems and aircraft are being grounded everyday.

The digitization effort raises some real challenges—from a materiel development side, not from a legal side—about integrating all these digital systems. Our modernization plan specifies that we build systems as part of a larger system. The test community has directed that new systems be tested all together. Instead of testing a platoon of Abrams tanks, or a battalion of Apaches, we will be required to field and test in brigade sets. This raises another set of challenges which we are going to have to learn our way through, but pay attention because that is how we will field the Initial Brigade Combat Teams at Fort Lewis and the Objective Force. A medium conversion will begin with two brigades at Fort Lewis: the 3d Brigade (a heavy brigade) of the 2d Infantry Division, and the 1st Brigade (a light brigade) of the 25th Infantry Division (Light). In the near future we will outfit both of these brigades with a new set of equipment which we have yet to define.

Let me explain how challenging the medium conversion time-line has been. The *Commerce Business Daily* announcement was published the first week in November [1999]. We had an Industry Day the first week in December, just last week, which about four hundred people attended. The competition is international. We are going to have a lot of foreign competitors. We are going to have a vehicle demonstration at Fort Knox, Kentucky, in January 2000. We will put a request for proposal on the street on the 15th of February, or thereabouts, and we don't even have an Opera-

tional Requirements Document (ORD) yet. We are going to have a competition in June for award most likely at the beginning of the next fiscal year. We will talk a little bit more whether I have authorization to do that yet or not, but that is the plan.

We have taken an oath to defend the Constitution. This means obeying the laws of the United States, which include annual appropriations and authorization laws. Some of these laws are not quite as clear as we might like. We have found cases this year where the congressional appropriators have disagreed on how the Army should bring all the modernization pieces together. We found language within the appropriations law this year where the Conference Committee did not rescind language that was put out by an earlier committee. As a result we unintentionally violated the law. There were also other organizations that broke the law, all as a result of the complexity of the issues we are dealing with as we try to both modernize and uphold the Constitution at the same time. Quite often we need your help, and a lot of help from others, looking at what is legislated, and perhaps more importantly, how we can change legislation so that we can do some of the things for those soldiers of tomorrow who are in second grade today. The challenge then is to come out with a positive legal standard, not a prohibitive standard. I usually go to my legal counsel—Levator Norsworthy—and say, “Vate, I didn’t ask you why I can’t do something, tell me why I can do it.” Vate will usually respond that he will have to go find someplace in the law that says that I can do it. We have to be pretty smart right now in understanding what the law is telling us we can or can’t do, not just what we would like to do. We are going to rely on you to come back and help us with those answers.

We are finding all the time that we have some real challenges here. We are going to come back to you more frequently to find out where we need rescissions and where we need referrals. We just have to wind our way through those paths, which is getting, in my view, more complex all the time.

This is what Congress added to our appropriations bill last year:

In addition to amounts appropriated or otherwise made available in Public Law 106-79, \$1,000,000,000 is hereby appropriated to the Department of the Army and shall be made available only for transfer to titles II, III, IV and V of Public Law 106-79 to meet readiness needs, provided:

- Funds may be used to initiate fielding and equipping.
- Funds transferred shall be merged with and available for the same purposes and time period as the appropriation.
- The Transfer is in addition to any transfer authority available to the Department of Defense.
- That none of the funds made available may be obligated or expended until 30 days after the Chief of Staff of the Army submits a detailed expenditure plan to the Congress.<sup>7</sup>

I'll ask you the question, "Do I have authorization now to put the Interim Armored Vehicle proposal out on the street on February 15th?" I only provided you a summary of the language in the appropriations bill, so you would obviously want to read every word of it before you responded to my question. We would probably debate whether we can or cannot issue the proposal. It is relatively easy in the end because the bill's language directs the Army to provide Congress a detailed plan before spending any money. But we have some cases where Congress is trying to help us change and is giving us some latitude to do things. There are many ways to move money around, but in order to do so we must consider fiscal law. Normally we work under budget caps, but now we have provisions within the Kosovo Supplemental that allow us to use monies for readiness issues. This could free up other money, originally budgeted for readiness, to pay other bills. We must all work together to try to figure our way through this.

How can we generate the resources to accomplish those modernization initiatives I have discussed within the time-lines that we said we want to do them in? Take, for example, the light force effort. The Joint Lightweight 155 [mm Howitzer], is a joint U.S. Army-Marine Corps program. The Marine Corps has the lead. The Navy Acquisition Executive has oversight responsibility. The first issue is deciding where the gun tube should be made. Each service has a different opinion. Does the Arsenal Act apply to the United States Navy? The Navy doesn't think so. What is the intent of Congress? What are they going to make us do? This has yet to be resolved.

I previously mentioned an instance where an appropriations conference report did not rescind the language of one of the committees. This report dealt with the Line of Sight Anti-Tank (LOSAT) system. Based on the appropriations conference report, we re-programmed money, OSD's money, back to a line which the original committee had prohibited us from

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7. H.R. CONF. REP. NO. 106-479 (1999) (Appropriations Conference Report).

doing. They just took some more money away. They got even. So we still have to fund the LOSAT because it is one of our top priority programs needed to make our light forces more lethal. We have to find our way through that process.

The High Mobility Artillery Rocket System is a system that sits atop a common Army truck chassis. That truck is from the Family of Tactical Vehicles (FMTV), a program with which the Army has never had a legal problem! We have gone back and forth about whether we are going to complete the FMTV or not, and the program delays have been endless. In acquisition, too often one system that we need to field quickly is linked directly to a system that is delayed.

As we move forward with the JCF AWE, we may determine that the Army should accelerate one or more existing programs in order to increase the lethality of our light forces. The challenge is to accelerate a program in the short-term when our planning, programming and budgeting process and the appropriations process do not lend themselves to rapid change. How do we accelerate without violating the Anti-Deficiency Act? We cannot use future funds to pay for a current need. A decade ago, the Senate appropriated funds for the Army to keep a mortar round line open at the Louisiana Army Ammunition Plant. The Army had no valid requirement for additional mortars—adequate stocks were already on hand. Despite the adequate supply, a Louisiana senator asked the Army to keep the line open. The promise could not be kept because to do so would be in violation of the Anti-Deficiency Act by contracting in advance of an appropriation.

We ran into a similar situation last year with the LOSAT. The contractor was very willing to put his own money on work that we knew would have to get done but which we did not have the money to do in the near-term. The contractor knew it was our top priority program within the military and that we were going to pay for it eventually. We couldn't do it. It was a future appropriation that we could not use to fix a current need. We had to go through a re-programming action. These are the kinds of issues for which we need your help.

I talked to you about fielding of the Initial Brigade Combat Teams. There are several challenges that we must solve before fielding the IBCTs. I also spoke to you about the *Commerce Business Daily* announcement. One of the vehicles we are looking at for the IBCT is the LAV, not the Marine Corps LAV2, but the LAV 3 built by [General Motors] of Canada.



The Canadian Army has agreed to loan us those vehicles so that we can start our operational testing and understand the new organization for wheeled-vehicle organizations.

I have received a lot of information lately on the difference between leasing and loaning equipment from foreign countries. When making such agreements we really need to pay attention to what the agreement says about the condition the vehicles must be in upon their return to the loaner. I just returned from France where I discussed the possibility of the French loaning us vehicles. The particular vehicle we are interested in is one the French Army does not want to provide us from their inventory. GIAT [Industries], the French company that produces the vehicle, is willing to lease additional vehicles to the French Army, who in turn, could loan it to the U.S. Army. The loan of the Italian and German vehicles we want had to be arranged under a NATO agreement. The Armored Gun System was easy. We already own six of them. One of them we loaned back to the contractor to do some future development work and one was used for testing. The remaining four will go to Fort Lewis. Those are the kind of issues we are involved in right now with fielding loaned equipment to ensure we have enough vehicles to conduct tactics, techniques and procedures at Fort Lewis.

How do we conduct a competition between wheeled and tracked vehicles without prejudice? How do we convince people that we really haven't already decided whether our future force will use wheels or tracks?

Perhaps the biggest challenge of all is to completely redesign the United States Army in the next ten years and put it into production by 2010. We have a decision point in 2003. We will do that by looking at efforts underway at the Defense Advanced Research Projects Agency, the Army laboratories, and industry. How many of you think we can field a system in ten years that has yet to be defined? That is what we must do. That is the challenge that the Chief has given us. If we don't accomplish that goal, what are tomorrow's soldiers going to go to war with—the seventy-ton Abrams tank fielded in 1980, a Bradley, an Apache that we just grounded? The challenge is real and, while it is significant, we are going to have to figure out how to do it.

We are going to have to look at engine propulsion system technologies that are being developed in the commercial sector. The commercial automotive industry today, both [domestic] and foreign, is spending billions of dollars, literally billions of dollars on hybrid electric and fuel cell

technologies. The Army's largest engine program spent \$250 million. What we spend pales in comparison to what the commercial sector spends. This is just the reverse of what happened in the 1960s and 1970s. We are going to have to learn how to leverage these commercial efforts to develop military equipment.

Cooperative Research and Development Agreements (CRDA)<sup>8</sup> have been very effective for the Army since the mid-Eighties. [These] CRDAs are not competitive. One of your compatriots, who deals with vaccines at the Medical Research and Development Command, has become a real expert at figuring out how to change the Federal Acquisition Regulation to allow us to initiate a non-competitive CRDA and end up with a contract awarded on a competitive basis. The issue becomes, "who owns what rights?" That is only the tip of the iceberg when one starts investigating intellectual property rights that are going to come out of the many information technologies being developed today. I helped initiate a CRDA with the University of Southern California (USC). [The university] conducts research affiliated with the entertainment industry. We initiated a CRDA because USC won't contract with the Army and we wanted to use some of their innovative technologies for use in training simulations. These types of efforts can be done using CRDAs.

One of the things we also want to continue to do is buy equipment using performance specifications. We do not want to return to the use of old military specifications. Let me give you one example. I do not know if it is good or bad example, nevertheless it is an example. We procured the Hunter Unmanned Aerial Vehicle (UAV) using performance specification. Because the initial air vehicles had some problems, we decided not to buy anymore. Over time, the initial systems we procured have functioned remarkably well. In fact, the Hunter has flown more hours over Kosovo than the Air Force's Predator UAV, and most people never even realized the Hunter was even in town. We know we can do it. We are learning how to block requirements. We are learning how to write contracts against those blocked requirements. Then we have to build testing

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8. In 1986, Congress provided incentive to government research laboratories by creating the CRDAs. These CRDAs allow labs to cooperate with academia and private business on anything that is research-related. The agreements provide easy access to intellectual property, patents, and exclusive commercialization rights.

against those requirements and do it against performance specifications rather than a military specification.

If we can't figure it out, [today's] second graders are going to war in Abrams tanks, Apache helicopters, Multiple Launch Rocket Systems rockets, and probably Paladins because the Crusader will be too heavy.

The challenge the Chief has given us is this: one brigade must deploy in ninety-six hours. We will have to rely on military airlift to meet this requirement. We better design equipment for that. A division must deploy in one hundred and twenty hours. Again we are restricted to the use of airlift to meet that requirement. We had better make that light force really lethal and survivable real fast and we had better figure out how to put a tank on a diet, real fast. Five divisions must deploy in thirty days. Meeting that requirement will require a combination of pre-positioning, and both air and sea lift. Our pre-positioned stocks had better be in the right place because the requirement is not that we have to be able to deploy to Southwest Asia, or Southeast Asia, or Northeast Asia, but any part of the world in those time frames.

There are many legal issues that have arisen in reference to recapitalization. Whenever recapitalization is mentioned, the depot caucus will definitely get involved. How do we use Operations, Military Army appropriations to get a better product to the field? In some cases, we do things so cleverly that we constrain ourselves to buying processors that are out of production because we haven't figured out how to use the right laws to get the right wording and the right efforts. I would also suggest to you that some of that fiscal law has nothing to do with law. You are going to be in the middle of those arguments because the legal issue, the fiscal issue, will become the one that is used as the argument. We've got to figure our way through that or we are not going to be able to modernize the force.

I came into this job two-and-a-half years ago. I didn't expect to be in it two-and-a-half years. I didn't expect to be in it at all, quite frankly. When I arrived, Apache Prime Vendor was an issue and it is still an issue. In fact, there is a group of Army contract officers, lawyers, program managers, and staff who are at Carlisle Barracks right now to figure it out. They have been directed to stay until they figure it out! Have a nice Christmas! They need help. The real answer is we have to do it together. We must do it for our current soldiers and for our future soldiers—those kids who are in second grade today. I'm not going to solve it by myself and you are not going to solve it strictly from a legal standpoint. We have to bring

all those pieces together. Clearly, the challenges are there. They are not new necessarily, but they are framed in today's context as we move into the twenty-first century. It is going to take civilian counsels, contractors, the government, the JAGs, and all of us working together to figure out what the right answers are so that we will have armed forces in the twenty-first century as good as the ones we are blessed with today at the end of the twentieth century. That is the challenge for all of us to figure out and we will do it together.