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Remarks as Prepared for Energy Secretary Samuel Bodman
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Thank you, Tom. I'm pleased to be here this afternoon as you discuss a major component of our nation's collective effort to improve our energy security: modernizing our electric grid. My sincere thanks go out to the organizing committee – and our Department of Energy staff – who worked so hard to pull this together.

I realize you all have spent the last few days examining the challenges – and the possible solutions – associated with grid modernization so I don't think I have to convince anyone in this room that we have a very real and very serious challenge on our hands. But let me take just a few minutes to examine the current state of affairs with regard to the grid.

First, demand for electricity in this country is growing and will continue to do so. And that's a good thing. We of course will continue to focus significant efforts and resources on conserving energy and improving the energy efficiency of our homes and businesses. But a growing economy and rising standards of living have meant, and will continue to mean, that we need more energy. The Energy Information Administration estimates that electricity consumption between now and 2030 will grow by over 40 percent. That's a significant amount of new demand. And meeting it will require substantial growth of both generating capacity and delivery capacity. For example, significant increases in cleaner energy generation, such as from wind and solar power, will in many cases require new transmission to bring the electricity from remote generation sites to consumers.

Along with increased demand for electricity, we must recognize the need for higher reliability – to levels beyond those for which our grid system was originally designed. Consider this: a recent industry-funded study estimates that total electricity used by computer servers and other Internet infrastructure doubled between 2000 and 2005, amounting to 1.2% of total U.S. electricity consumption in 2005. At the same time, the current power infrastructure nominally maintains 99.99% reliability. But this statistic ignores momentary interruptions. Current reliability practices may be adequate to keep the lights on and the motors running; but today's microprocessor-controlled electrical devices can be affected by power interruptions or distortions lasting a few seconds – or even much less.

Despite increasing demand, we have (paradoxically) experienced a long period of underinvestment in power generation, power transmission, and infrastructure maintenance. The reasons are many and complex they range from changing market dynamics, to issues related to siting and permitting, to environmental concerns. On top of that, as it has become more and more burdened, the grid system has become more susceptible to both human errors and natural disasters such as hurricanes and ice storms which we have experienced recently with devastating consequences to the well-being of our people and to our economy. And, I would just add that we cannot ignore the threat of terrorism that our country continues to face. Improving the physical security of our grid is a very significant challenge.

So, to summarize, these are just some of the factors weighing on a delivery system already under duress: steady demand growth that will continue into the future an increasing need for higher reliability a greater reliance on generation sited far from load centers a long period of under-investment in transmission facilities and a heightened susceptibility to errors and disasters – be they natural or man-made. I don't mean to sound overly bleak after all, our system is working and, generally speaking, working well. But it is aging, and it is stressed. This problem was highlighted in President Bush's National Energy Policy of 2001, and while we've made progress, it remains a significant challenge for this country.

So, what do we need? Well, first off, we must view the need for grid modernization within the context of our overall energy security situation. After all, meeting future demand will require: a diverse and secure supply of reliable, affordable, and environmentally responsible energy; more energy efficiency measures throughout the system; and a highly interconnected, reliable, secure, and efficient transmission system – in other words, a truly transformed grid.

I believe that we can get there. To do it, we need a few things. First, government at all levels –federal, state and local – must put policies in place that support grid modernization. In effect, government leaders around the country must recognize that such efforts are in our national interest. Now, I fully understand that this is sometimes difficult to do in practice, particularly when individual landowners or perhaps a local community feels adversely impacted. And I will not minimize those concerns. They must be taken into account. But, when viewing this situation from a broad perspective, it is clear that grid modernization is an urgent national problem. And it's a responsibility that we all share.

It is with this in mind that today I am announcing the issuance of two draft National Interest Electric Transmission Corridor designations. These draft designations – which are in accordance with the Energy Policy Act of 2005 – address two regions of the United States where transmission capacity constraints and congestion pose a significant level of national concern. The first area, the Mid-Atlantic Area National Corridor, covers some or all counties in Delaware, Ohio, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia, and Washington, DC. The second area, the Southwest Area National Corridor, covers seven counties in southern California, three counties in western Arizona, and one county in southern Nevada.

I'm issuing these draft designations after months of careful study by Department of Energy staff. And I am quite proud of their work, which included close consideration of public comments on the National Electric Transmission Congestion Study, released by the Department last August.

In my view, these draft designations serve as an important indication by the federal government that, at a regional level, a significant transmission constraint or congestion problem exists – one that could adversely affect consumers and that has advanced to the point where we have a national interest in

trying to alleviate it. It is a way of focusing in on the areas of the country that that are most in need of solutions – and whose residents stand to benefit most from prompt action.

Our goal is really quite simple: to keep the power flowing to all Americans with sufficient reliability. And so, each draft Corridor was designed to include both areas where significant congestion problems or constraints exist and areas where there is a substantial amount of existing underutilized capacity as well as the potential for development of renewable energy generation – a so-called “source-and-sink” approach. In other words, these Corridors are meant to facilitate the process of connecting places that need relief with places that have the potential to supply more power. And this work cannot happen soon enough.

For example, analyses have shown that unless changes are made, so-called “reliability violations” will occur in this part of the country (Baltimore-Washington-Northern VA) by 2011 in northern New Jersey by 2014 and in central Pennsylvania by 2019. At the same time, “resource adequacy violations” will begin to occur in New York by 2011 and in San Diego by 2010. Now, most of you understand this technical jargon but in layman’s terms, these types of projections indicate an increasing risk of significant problems –such as involuntary service curtailments and even rolling blackouts. Some areas, most notably in California, have experienced this firsthand in recent years. So I am concerned about these warnings because of what they imply about the integrity of the system namely, that the grid operators’ capacity to supply the system is lower than the projected demand from consumers and businesses.

On a more specific level, this designation is a necessary first step in providing the Federal Energy Regulatory Commission (FERC) with siting authority that supplements existing state authority. The Energy Policy Act of 2005 provides a potential siting venue at FERC for transmission facility proposals within a National Corridor. In practice, this will mean that if an applicant does not receive approval from a State to site a proposed new transmission facility within a National Corridor, then FERC may consider whether to issue a permit and to authorize the construction of the facility. Before FERC would issue such a permit, it would conduct a full National Environmental Policy Act review and consider alternatives. Such a federal permit would empower the project developer to exercise the right of eminent domain to acquire necessary property rights to build the facilities. However, that authority could only be exercised if the developer could not acquire the property by negotiation, and even then would not apply to property owned by the United States or a State, such as national or state parks.

With these draft designations, the Department of Energy is encouraging a full consideration of all options available to meet local, regional and national demand – including more local generation, transmission capacity, demand response, and energy efficiency measures. We are not, for example, directing anyone to build a transmission facility in a certain area or determining the route for any proposed transmission facility. Nor are we asserting that additional transmission capacity is the only solution to resolve the congestion.

“In other words, the federal government is not dictating how the states, regions, transmission providers or electric utilities should meet their energy challenges. But, what I am saying today is that no matter what the states and communities decide to do, new transmission capacity must be considered as part of the solution. And, as a nation, we must look at this question seriously: where are we going to put it?”

And I should add that our work continues as well. We look forward to getting additional input from the public over the next 60 days, including through three public meetings which we will hold in New York, California and the DC metro area and will be announced in the Federal Register. In addition, the

Department will consult with the Governors of each of the affected States and the Mayor of the District of Columbia.

Now, as we are discussing smart policy options, we cannot leave out a second – and extremely necessary – component of our national response to this problem. Namely, that in order to meet this challenge, we need substantial and sustained investment in R&D in both the private and public sectors and policies that actively encourage both investment and strategic collaboration.

Now, in my view, the federal government has a very clear role in the R&D area – to continue to provide the substantial funding needed for basic research and, in some instances, for pushing along the most promising technologies to commercialization. And I'm proud that our administration has consistently done that.

Our efforts in this area recognize that the government cannot operate in a vacuum. As we look for ways to improve the reliability and efficiency of our system, we must work in close conjunction with the private sector – the people who own and operate these systems. I'm pleased to say that we are currently working with our private sector partners in the following areas, among others:

- High-temperature superconducting materials and other advanced materials for cables and power electronics to allow for greater amounts of electricity to travel over the grid;
- Modeling and simulation for wide-area monitoring and management;
- Lowering the costs of electric storage devices;
- Microgrids for critical loads and remote power;
- Infusing advances in sensors, communication, and information technologies for distributed intelligence into every part of our grid system operations; and
- Control systems security and protection to be resilient to both physical and cyber attacks.

Let me just give one specific example of effective partnerships. In 2006, the Department and its private sector partners began operating a first-of-its-kind 200-meter superconducting cable at an American Electric Power (AEP) site in Ohio. This high temperature superconducting cable will deliver more than 50 MW of power to about 8,600 industrial, commercial and residential customers with improved efficiency. This is another important piece of what must be a thorough response to improving the reliability, efficiency, and security of our grid system.

Let me wrap this up with one last point. A few years back, the National Academy of Engineering named “electrification” as the greatest engineering achievement of the 20th century. And indeed, it is hard to overstate the importance of electricity generation and distribution to our nation’s tremendous economic growth over the past 100 years. But this system – the greatest engineering achievement of the 20th century – is aging and stressed. Simply put, it is no longer adequate to meet the demands of the 21st century. In the same way, the parochial interests that shaped energy policy in the 20th century will no longer work. Though the siting of electric facilities is – and will remain – primarily the province of the States, we all must begin to think creatively about how to ensure a reliable supply of electricity for our nation. From a policy and regulatory standpoint, we cannot begin to address the energy challenges of this new century until we begin to think from a regional, national and ultimately global perspective.

Transforming this electric system is our great challenge. I believe that we can do it and that we will do it. After all, we must do it – our economic future and well-being depends on it. Thank you.”

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