



NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

## Executive Remarks A New Reality

**As presented by: Rick Sergel, President & CEO**  
NERC Board of Trustees & Member Representatives Committee  
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Tuesday night I received a book, “Fifty best places to fly fish before you die,” as a gift. I will be off to that soon enough, but for this morning I ask you: what do you believe are the five largest risks to North America and our way of life? Consider threats that would impact all aspects of our complex societies. Certainly a nuclear act of war would make the list—you should know that I am child of the fifties, trained to “duck and cover” in the event of such an attack. Today, a severe pandemic virus or massive “Katrina”-like storm might make the cut. Global warming comes to mind, but something that occurs over decades doesn’t seem to fit in the category. We’ve just witnessed the impacts of a shock to our financial system. Most of us can personally attest to how impacts to our investments can change how we make decisions. But even this is not quite on par with the kind of threat I’m talking about. Throughout the financial crisis, we woke up, had coffee, checked the value of our 401k on the internet, drove to work, scanned the email, voice mail, and went through our days. What kind of event would impact even our ability to do these simple things?

You may have guessed where I’m headed. The loss of the reliable delivery of electricity to our homes and businesses has got to be near the top—and I would argue above the loss of any of our other critical infrastructures.

Think about it.

Today, only about a third of monetary transactions in the U.S. are conducted with cash. In 1980, we had 18,500 ATMs in the United States. Today, we have over 360,000. The number of ATM’s has actually begun to decline as consumers prefer using debit cards at the cash register.

One in five U.S. households now rely on a cell phone—as their single mode of telecommunications. Mine requires charging at the end of every day.

One in ten households receive a daily newspaper—lower than any year since the Great Depression—we rely on television and the internet for news and information.

170 billion letters are projected to be sent via the postal service this year—which turns out to be less than one day’s worth of worldwide email traffic.

Between 1997 and 2003, the proportion of time children ages 9–12 spent in outdoor activities declined 50 percent, according to a University of Maryland study. The average child today spends six and a half hours in front of the television, on the internet, with an ipod or gaming console. Perhaps that is viewed as unhealthy but nevertheless it is our reality.

At a very basic level, we rely on electricity-dependent technology to communicate, to learn, to work, and to play. Electricity enables national security, mobility, health care, finance, manufacturing and entertainment. It is so engrained into our way of life that we take it for granted at every turn. We are way beyond the light bulb.

Contrast this with the start of my career at FPL. I had a slide rule and pencil. My first hand held calculator was five years later. No cell phone, no word processing—my first “word” system was fifteen years later. Storm duty with pins on printed maps. Checks were not automatically deposited—they were cashed in the building. No laptop, air conditioning saturation in residential units was around 50%, we had analog relays—many of you remember.

The progress of society has been possible because of your demonstrated ability to keep the lights on, all day, every day. You have operated the system reliably for decades, and there is no doubt in my mind that we can continue to do so for many years to come. You are the victims of your own success.

The job is orders of magnitude more important than it was just fifteen years ago.

And this is today. What happens when we look to the future? Let me pose a couple of additional questions.

What is the single greatest enabler of a greener North America? This question is easier to answer than the first: the electric grid. And to prove it, our long-term assessment shows you’re proposing to add 260,000 MW of renewable power to the grid over the next ten years.

Here’s another. What is the most important driver of economic growth and success in North America? Arguably energy price and availability—brings us right back to the grid.

Why is all of this so important to us sitting here today? Because the bar with respect to the minimum level of acceptable performance of the bulk power grid has been dramatically raised and there is not the slightest indication that it will do anything but rise higher.

I worry that others have been quicker to realize and internalize this new reality. Any effort to ensure the peaceful progression of society and equal access to life, liberty, and the pursuit of happiness in the 21st century increasingly relies on the grid to be successful.

Congress and the mass media recognize this. They have shown increasing interest in how we manage the grid—especially with respect to cyber security and, lately, electromagnetic pulse events.

And so we must ask ourselves how, then, do we, as an industry, assure policy makers and the North American public that we’ve got it under control?

Keep in mind that no one has eliminated the risk of a nuclear attack. To be candid that relative risk rises and falls with the headlines for me. But therein lies the kernel of our mutual challenge: we can’t today,

and never will be able to assure the public that we have it all covered. That's not an easy message to tell or to hear. But all we can do is effectively manage the risk.

NERC and the self-regulatory model are at the heart of our industry's efforts to do so.

A sound approach to risk management begins with prioritization. We were actually quite fortunate at the outset of this new self-regulatory endeavor. The August 14, 2003 blackout afforded a clear and straightforward initial list of issues that had to be dealt with from a reliability perspective.

Trim trees. Put a check in the box: FAC-003.

Train system operators. Check in the box: the System Operator Certification and Continuing Education Program.

Develop reliability tools. Check in the box.

Address zone three relays. Check in the box.

We have been disciplined and successful in addressing the recommendations from the blackout report and, as a result, have significantly reduced the risk that such an event could occur from similar causes in the future.

The task we have been engaged in over the past several years is to appropriately identify the next list of issues that must be addressed.

We all understand that resources and expertise are limited and that managing compliance is not a sunk cost. We cannot afford to expect or enforce compliance with unclear, unnecessary, or confusing requirements. We frankly have too much else to do—and I'll get to what I mean by that in just a minute.

But first I'd like to highlight one example of an ambiguous requirement that is top of mind for many of us these days: CIP-002—the identification of critical assets and critical cyber assets across the system. Today we will file a report with FERC that outlines the results of our most recent self-certification survey. While the results don't provide enough detail to support analysis of decisions with respect to individual units, they do show significant variations in application of the standard across the regions. We can write words around the results, but at the end of the day I am concerned about the implementation of the standard.

Adequately protecting the system from these threats will require education and prioritization of resources to protect those assets most material to the reliability of the system as a whole. It will also require financial investment. We know that.

This is why it is vital that we take a step back and work to identify the protection goals of the system. We must devise a clear and consistent method that identifies everything that should be subject to security controls from a reliability perspective—taking into account the potential that an asset could not only be destroyed or rendered unavailable, but could also be misused to impact other assets. The method must ensure the decision to designate or not designate an asset as critical is made with the right information and expertise to determine impacts on the bulk power system as a whole.

We have made progress on this issue—the concept paper put out by the standards drafting team in August was an excellent start. But there is still a long road ahead before we can say we’ve accomplished our goals.

On this issue in particular, we have a deadline. Congress is presently considering legislation that would overwrite the SRO model for setting cyber security standards. A parallel discussion is ongoing in the major media, and has been ongoing for quite some time. In April, we saw the impact an article in the Wall Street Journal could have. We’re expecting to see a 60 minutes piece air in late November or December. Make no mistake, the questions will come. The decision time-frame on these issues is measured in weeks, or perhaps months but not years.

Ironically, impatience is even greater among users, owners, and operators who want guidance on how to move forward.

It is our goal to provide that in a reasonable timeframe. If we don’t, others will.

Thus, we are working with our stakeholders to create an action plan to expedite the development of a workable CIP-002 framework. We must act to put this framework in place on the same schedule that FERC or another regulator could act within.

So I promised to get back to some of the other issues on our plate. In addition to cyber security, the industry will face a confluence of other emerging issues in the coming ten years: issues that we cannot afford to delay or ignore. Our Long-Term Reliability Assessment, released last week, outlines ten key issues, including transmission siting, climate legislation, the integration of variable generation, “smart” grid, workforce issues, and reactive power.

I think all of us are guilty of procrastination at times, so looking ten years out can be a comforting view. Surely, we have plenty of time to figure things out.

That’s fine until you realize that every home in Ontario now has a smart meter installed, and many utilities will be moving to a tiered pricing structure in the coming months. Over 33 million smart meters will be installed in North America by 2011 and that number is expected to rise to over 250 million by 2015. The grid is getting smarter—one meter at a time. The question is, are we keeping up? From a reliability perspective, we must work to leverage the strengths of this new end-to-end system and ensure that the 21st century grid remains safe and secure.

I touched on renewables earlier—if the 230,000 MW of wind power proposed in the long-term assessment is built, it will make up roughly 20 percent of the energy resource mix by 2018. We’d be hitting that milestone twelve years earlier than DOE projected in its 20 percent wind energy by 2030 report last July.

To make this possible, we must solve transmission. Constructing needed transmission facilities identified in the long-term assessment will require entities to more than double the average number of transmission-miles constructed over any five-year period since 1990.

We are engaged in a healthy debate over integrating renewables at the local or regional level versus moving large quantities of renewables from source to load. My experience tells me that siting and building the 20 miles of transmission on the Cape has been tougher than the hundreds of miles built

through New Hampshire. It's been amazing to watch how quickly the regional and local plans have been translated into a "no new transmission is needed" message.

In the background is the fact that we are operating the system closer to its limits than in the past. Frequency performance is an indicator of how close to the edge we really are. A 1994 report by the Resources Subcommittee states—and I quote—"The fact that an under-frequency event has not happened yet is only a coincidence." And that was fifteen years ago. Three weeks ago, a 400 MW unit tripped and caused an FTL low alarm. What would have happened if it had been 1,000 MW?

NERC and the Operating Committee have begun an effort to coordinate NERC's various activities on frequency under a single banner—from standards development to event analysis to benchmarking. We must begin to understand the root causes of the decline in frequency response in the Eastern Interconnection and determine how to reverse this trend.

It is my vision that this organization would continue to provide leadership and take responsible positions on the many issues facing our industry in the months and years to come. The self-regulatory model is an incredibly powerful concept. Don't lose sight of what we've built together over the past four years. We are able to do things at NERC that no other organization can do—we have the capacity to build consensus within an incredibly diverse industry. We have the support of and access to literally thousands of experts across North America. We've developed an independent voice and a high degree of credibility with policy makers and the media. When NERC speaks, people listen.

Stay true to the mission of ensuring reliability. Build and operate a system that continues to serve this organization's true stakeholders—the people of North America—so they can continue to take us all for granted for many years to come.

Thank you.