

TESTIMONY OF WILLIAM J. MUSELER
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ASSEMBLY STANDING COMMITTEE ON ENERGY

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Good morning, ladies and gentlemen. My name is William J. Museler, and I am the President and Chief Executive Officer of the New York Independent System Operator, or NYISO. I am here at the invitation of Chairman Tonko, and I appreciate the opportunity to brief the Committee on what we know so far about the August 14th blackout and our restoration operations.

As you know, the NYISO was created to operate the State's bulk power system and administer the wholesale electricity markets. We are a New York not-for-profit corporation, and started operation in 1999. We are regulated by the Federal Energy Regulatory Commission (FERC) and, with respect to certain financings, by the New York Public Service Commission.

Immediately prior to coming to the NYISO, I was the Executive Vice President of the Transmission/Power Supply Group of the Tennessee Valley Authority, which in terms of MW served, is about the size of New York. Prior to that, I was Vice President of Electric Operations at Long Island Lighting Company. I currently serve as the Chairman of the ISO/RTO Council, and have served on the North American Electric Reliability Council (NERC) Board and as Chairman of the Southeast Electric Reliability Council. I am a graduate of Pratt Institute and Worcester Polytechnic Institute.

I would like to make clear at the outset the areas that we know and those that we don't know. While I am, of course, aware of what has been in the press regarding the events that initiated the blackout, I am not able to tell you anything in detail about those events because they have not yet been determined in detail, and only when all of the details are collected and analyzed, will the full story be known. Because the initiating events happened in a very short space of time - really just a matter of seconds - and happened away from New York, understanding them fully depends largely on interpreting electronic data that we do not have. The International Commission formed by President Bush and Prime Minister Jean Chretien of Canada is being given the data¹ and is undertaking its interpretation. We are, of course, cooperating fully in this investigation. The U.S. end of that investigation is well underway and is headed by the Department of Energy. Like you, I'm anxiously awaiting their conclusions.

I will try to avoid speculation this morning, because it can do a great deal of harm if it turns out to be unfounded. An example of the danger of uninformed speculation is a number of recent articles in the newspapers, in which a theory of causation was based partially on the premise that New York severed its ties to Canada and caused electrical occurrences that took

¹ NERC has been designated as the central data collection and analysis point and all data is being sent to them.

down the New York system. The premise on which this theory is built is absolutely wrong. New York never severed its ties with Ontario or Quebec. The information turned over to the NERC made that quite clear.

Among the other investigations that we know of thus far, are the formal inquiry that the Governor instructed the PSC to undertake, an inquiry by the New York State Reliability Council, an investigation by the Northeast Power Coordinating Council and hearings by the Energy and Commerce Committee of the United States House of Representatives. I'm sure that this list is not yet complete, but we will cooperate with all of them to the best of our ability. In addition to these outside inquiries, the NYISO began its own investigation and analyses within hours of the event. The NYISO is reviewing its own records to determine the precise sequence of events that took down major portions of the New York system within fractions of a second. We are comparing the actual performance of our system against both past simulations, and with the NERC and NPCC operating and design requirements. Needless to say, we will also review our own operations to determine if they can be improved, and all of our data and analyses will be forwarded to NERC for use in the International Commission's investigation.

What I can and will tell you about today is the restoration effort that began immediately by the NYISO. I will also go over for you several

important policy initiatives for improving electric reliability in New York State, an agenda that the NYISO and others have been advocating for several years. Some of the items on this agenda had nothing to do with the recent blackout, but are clearly related to potential future problems.

In an occurrence such as the recent blackout, the greatest danger to electric service is potential damage to the system itself—the power plants and the transmission lines. Had that kind of damage occurred, it could have taken days, weeks, or even months to restore. Fortunately, the complex protective mechanisms that had been installed on New York’s transmission system and on its power plants worked as intended and no serious damage was done. This protection shortened the restoration process considerably.

Up until the event, our system was operating normally for a warm summer day. The immediate electrical events that caused the blackout in New York occurred at 4:11 p.m. on Thursday, August 14, 2003. Within a few seconds, our system was hit by onrushing power flows, reversals and severe frequency and load oscillations. The transmission system was unable to withstand these severe conditions. However, several hydro plants in upstate New York, as well as the Quebec tie line, remained in service, as did the majority of the upstate transmission system. Thus, about 20% of the load continued to receive service during the disturbance.

The first step in the restoration process involves stabilizing the system and restoring our ties to the neighboring control areas. After that, the process of bringing power plants and outside sources back online must take place, including the delicate balancing of the power they can supply with the demand in the individual area being restored. If the demand were greater than the supply, the system would crash in the affected area, and fortunately that did not occur. This was the first time that such a restoration had to take place since the plants were divested by the State's utility companies, but it worked according to plan, and the plant owners and workers deserve praise for their performance, as do the men and women of the State's utility companies who worked non-stop to restore service to New York's citizens.

Within about three hours we were able to restore our major tie at Ramapo to the remainder of the Eastern Interconnection. The first major power plant was returned to service in just under an hour after that, and a few minutes later we re-established a transmission path to New York City. Throughout the next day there was a painstaking process of bringing generators back to the system and re-energizing lines. Statewide service was completely restored by 10:30 p.m. Friday, August 15th.

Our Restoration Plan is contained in the NYISO Emergency Operations Manual, developed in 1999 in accordance with NERC and NPCC

emergency operations criteria. It was developed by NYISO personnel, approved by the Operating Committee (a committee of market participants) and amended from time to time thereafter. Under the plan, the first priority is energizing the power system, synchronizing it with neighboring systems and restoring offsite power to nuclear facilities. The restoration of load to customers is the ultimate objective and the plan is designed with this in mind. Each Transmission Owner also has an emergency plan, and the NYISO also has emergency agreements with ISO-NE, PJM, IMO and HQ.

The restoration process followed NYISO's pre-arranged plan and it worked well. In order to balance generation and load, it was necessary at one point to briefly "shed" load and defer for a short time the restoration of an area to await availability of generation. ("Shedding Load" is the deliberate and temporary interruption of a specific geographic area in order to balance load and generation. Individual Transmission Owners have load-shedding plans that seek to protect critical facilities and customers requiring life support devices.)

From the outset of the emergency, the NYISO gave high priority to the restoration of New York City, where the absence of electricity is a more severe threat to health and welfare than elsewhere. The first public

statement by the NYISO stressed this point, and the restoration activities reflected this essential priority.

The events that so affected New York on August 14 are not yet known in sufficient detail to plan and implement specific solutions. However, we believe it makes sense to examine the known problems that could give rise to other reliability concerns in the future. These have been referred to by the NYISO in a publication called Power Alert III, as well as in earlier versions of that publication.

We believe that the reliability standards set by the North American Electric Reliability Council, which are now voluntary, should be made mandatory. That issue is now before the Congress. We believe those standards should mandate significantly improved communications among the various regions of the country, since we are now painfully aware of the extent to which events in one region can affect neighboring regions.

As we have identified in our Power Alert reports, there are some actions that can be taken in New York to help ensure that other reliability problems do not arise. New York has been short of generating facilities in the recent past and projections indicate that deficiencies are likely again later this decade. That shortage will grow and will represent both a reliability concern and, in our new competitive markets, a cost to consumers. Because

the power plant siting law (Article X of the Public Service Law) has lapsed, it is now virtually impossible to license power plants in New York. We urge that it be re-enacted, if possible with some streamlining. The NYISO has already reformed its capacity markets to encourage investment in needed facilities and is working with neighboring regions to develop regional capacity markets. In addition, long-term contracts between prospective generators and Load Serving Entities can ameliorate the uncertain investment environment in the post-Enron world.

New York's transmission grid needs to be strengthened. Current incentives for building transmission are inadequate, the State's transmission siting law (Article VII of the Public Service Law) can be further streamlined, and, in the case of interstate facilities, a federal override may be appropriate as a last resort. This would be similar to the backstop siting authority that FERC already has for gas pipelines and could be invoked after a regional state process had run its course and had been unable to reach a resolution. I should note that this problem also has a continuous upward effect on electricity prices, since congestion on our transmission grid inhibits the free trade in electricity that the competitive markets were designed to foster.

In this brief statement, I have tried to summarize the state of the investigations into what we know about how we handled the recent blackout

in New York. I have tried to do so without speculating on things about which it is premature to draw conclusions. Needless to say, once the results of the international investigation are available, the NYISO will move aggressively to implement appropriate changes, as indicated by that investigation. Finally, I have taken the opportunity to alert the Committee to the need to consider an agenda for avoiding future problems.

In conclusion, I want to thank the Committee for the opportunity to come here today, and we will be cooperating with the Committee and the on-going inquiries into the outage.