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Chairman Chatterjee, on behalf of PPL Electric Utilities, thank you for inviting me to participate in the FERC Technical Conference. PPL serves approximately 1.4 million customers spread over approximately 10,000 square miles in Central and Eastern Pennsylvania. We have won 26 J.D. Power awards for providing top-quality service to our residential and business customers.

Our company is committed to a resilient power grid that provides safe, reliable, cost-effective service to our customers. PPL's 5,000 miles of transmission lines, and the larger transmission grid to which they are interconnected, give stability and flexibility to grid operations, which helps us respond to cyber, physical and weather threats.

To maintain reliable, affordable and sustainable electricity, we must continue to invest in our transmission system. Our investments in new and refurbished poles, wires, and terminal equipment support state and federal mandates by providing access to renewables and creating a strong foundation to deliver electricity from where it's generated to where it's needed.

PPL believes incorporating new technology increases reliability and meets customers' changing expectations. Our company has researched and implemented new technologies, including virtualization and private cloud for non-BES services as well as data analytics for predictive maintenance and are seeing positive results.

As new technologies are implemented, we must remain vigilant to respond to the everchanging cyber and physical threats against our industry. While PPL is committed to meeting the NERC Reliability Standards, PPL sees them as only a minimum requirement. Our focus is on reliability and security; and subsequently, we expect to exceed the compliance requirements. For example, PPL applies the same physical security standards to our Low Impact BES Cyber Assets (BCAs) as we do to our Medium Impact BCAs.

We want to continue implementing new technologies, like virtualization and cloud services. The new technologies can provide a step level increase in daily operations, such as faster security patching, more robust access models, and immediate scalability. If used in a secure manner, these technologies can have major benefits.

Selecting the most cost-effective technology, including private or public cloud, with appropriate security models is beneficial for our customers. At the same time, cost recovery for on & off-premise infrastructure must be considered. We support NERC Reliability Standards that set a security standard without limiting implementation options. Developing standards that enable new technologies without major changes is a win for the entire industry.

Emerging technologies should be evaluated for their impact to reliability, security and customers. Managed Service Providers (MSPs) have a role in our success or failure as the industry moves off-premise with infrastructure, platform, software, and security as a service. The industry needs the partnership from the MSPs. Clear roles and responsibilities for the various risk areas is critical.

PPL supports a model of independent third-party assessments and recurring monitoring to provide assurance of services, including security posture, to both the Registered Entity and the ERO. Similar to the independent testing for completeness and accuracy of financial data under the Sarbanes-Oxley Section 404, the ERO could perform sampling or rely upon independent assessments and certifications of the MSPs' security programs.

PPL recognizes there are still unknowns that need research and collaboration. Embracing emerging technologies is required to meet the fast-paced changes in the industry and external forces affecting the industry. We are mindful of the process changes that are needed as well as the need to understand and address the new risks. We look forward to partnering with the ERO, FERC, and other stakeholders to build and maintain a secure power grid to meet the customer needs of today and tomorrow.