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RE: Comments in support of DOE's Quadrennial Energy Review (QER)

Background: Avista, founded in 1889, is consistently rated as one of the country's lowest cost, high-satisfaction utilities, delivering electricity and natural gas services to more than 630,000 customer premises in communities across parts of Washington, Idaho, Oregon and Alaska. The company ranks among the greenest utilities with renewables representing ~60% of generation capacity and a commitment to energy efficiency that exceeds three decades. Known for leadership and innovation in energy, Avista is also the company that launched Itron and Ecova, two leading energy-based companies that today employ thousands and enable utilities and other companies – nationally and globally – to achieve more sustainable energy results. Today, the company is active on several newer fronts including electric vehicles, universal solar, smart grids and smart cities. Learn more at www.AvistaCorp.com.

Introduction: The Company welcomes this chance to share ideas on the future of our nation's energy policy. The comments that follow reflect and expand on input presented at the QER public workshop held in Salt Lake City, Utah, on April 25, 2016, as part of Panel No. 2: "Electricity Distribution an End Use: How do we manage challenges and opportunities?"

At the root of challenges and opportunities facing the U.S. energy sector are: 1) the pace of technology change that creates potential new solutions for ever-better outcomes in all of life's essentials; and 2) the misalignment of legacy regulations with new policy goals and what technology now enables. These forces underpin what may be the greatest challenge and opportunity of all: Unifying diverse interests to a shared purpose for the overall benefit of our nation, and beyond.

Herein we offer three guiding principles, which, acted upon together can help drive better energy outcomes. Success in applying the recommended framework depends first and foremost on sustained, facilitative leadership from DOE.

Principle No. 1: Reset context for a new era. To some, the electric system is about the components that make it work. To most, electricity has always been about the hot in your shower, the cold in your beer and light at the flip of a switch. Whether you live in a small house or the White House, electricity relieves the burdens of work, powers productivity, enables entertainment, and connects people in ways never before possible. Little wonder then that electrification was voted the greatest engineering achievement of the 20th century by the National Academy of Engineering.

Simply put, electricity is the most empowering invention of all time. And yet… In reply to this declaration, one seasoned utility executive's impulsive retort was "No, it's the Internet!" He quickly recanted, of course, because without power, there can be no Internet – or any of the other benefits that electricity enables. Even those closest to the complexities of delivering this high-value service can lose sight of power's pervasive influence on our personal and professional lives.

So, let's not lose sight of the overarching purpose and value that electricity delivers. Let's refresh our focus on outcomes to set context and help orient all other choices to be made about the things that make the system work. Said another way, expecting only a "reliable, safe and affordable" electricity system is self-limiting. Yes, as a nation, we still need and want those things. And we also want what new technologies can enable such as a cleaner, more efficient, more resilient, and multi-function electric system. Such an uplift in benefits begins with a change in what we expect. As a first priority, *make clear the new, overarching outcomes we want to achieve.*

Principle No. 2: Incent alignment at the system level. Not so long ago, electricity was a novel technology, new to consumers, brought to market by entrepreneurial utilities. Over time, policy and regulatory forces aligned to: accelerate expansion of the system; improve reliability, safety and affordability; and layer on new technologies that exponentially increased options for realizing value from the platform (i.e., "the network effect"). A deliberate approach to electrification powered this nation past most others, helping to make the U.S. the most productive economy on earth.

The impact of such alignment can be easily seen in tug-o-war, a sport people everywhere have played for fun and some for world titles. At any level of play, there are three conditions to win: Players must first be on the same rope and, for best effect, pulling in the same direction at the same time.

Said another way, alignment is most potent when willing participants work in concert to achieve a common purpose. The reverse is also true. When alignment is weak or absent, resources are wasted, efforts are diffused, and talents are left on the sidelines. Sadly, such weakness is the consequence we reap when discrete, well-intended policies and regulations address components of a system out of context from the whole. Looked at in isolation, good can be found in all policies and regulations. But a systems view is required if we're to achieve the greatest good in the overall public interest, in the quickest time, at least cost.

Examples of well-intended but mismatched efforts abound. To name a couple: 1) Affordable housing subsidies that favor low first cost in construction result in operating inefficiencies for the life of the building and thus the serving grid; and 2) Incentives emphasize residential solar instead of universal solar which can be deployed at scale more quickly, equitably and economically. As noted above, persistent misalignment of legacy practices and regulation with new, aspirational policies – relative to what technology now makes possible – is an overarching challenge to the optimal performance of the U.S. electric system. So, as another priority, *scrutinize and amend all policies, practices and regulations to foster (rather than impede) the system level outcomes we want, and need.*

Principle No. 3: Leverage resources for ever-greater value. Our nation enjoys an established, ubiquitous electric system that is reliable, safe and affordable due in no small part to responsible implementation by utilities for more than a century. The industry has performed so well, in fact, that today, some see operation of utility infrastructure as utilities' only relevant role. Beyond infrastructure,

utilities are part of the fabric of every community served, perfectly positioned to enable customers to achieve so much more. And not just with energy.

Think of it this way: The rapid advance of technologies and digitization of information fundamentally changes what's possible – even with something as staid as an electric grid. Proof points abound in the many new market entrants who combine sensing, analytic and communication technologies with alternative business models to offer fresh options to energy consumers.

In the face of such trends, the U.S. utility industry is on a foreseeable path to invest billions of dollars per year to modernize the electric grid. The result will certainly be a smarter, more resilient grid that's still reliable, safe, and affordable. But, so much more is possible.

With technology, the ability to sense anything, anywhere, at any time is on the rise, as is the capacity to store and to analyze digitized data. Steadily, these capabilities are being layered into the electric system to move kilowatts efficiently and optimize control of the grid in smarter ways. But how might we encourage utilities to amend what they're going to do anyway to achieve even greater outcomes? What role might electric utilities play toward improving water services, building operations, transportation modes, and more? How might we align local, state and national energy policies and regulation to leverage such new capabilities into greater value and a quicker path to the outcomes we want?

The time to answer such questions is now, while the bulk of modernizing investments lies ahead. Utilities and the infrastructure they operate offer a huge point of leverage if new technologies and solutions are integrated as part of – not apart from – the central grid. So, as a third priority, *incent ways to increase the number and diversity of options for how the electric system can be put to use and optimized to ever-greater benefits.*

Conclusion. Radical efficiencies in the form of better energy outcomes for our nation at lesser cost are possible, if we: 1) reset expectations for context; 2) align policies and regulation to smooth the way; and 3) commit to making the most of what we have to achieve what can be. With determined, steady, facilitative leadership from DOE, we can stop relying on jurisdictional conflicts to rationalize "why we can't" do better and overcome impediments of dealing with things in isolation. Yes, this will be hard work that requires organizational commitment and sustained personal efforts to forge a new level of collaboration. Effectively lead, the design principles shared above will help unify diverse interests and clarify choices at every turn, whatever the challenge or opportunity.

Avista appreciates the chance to share these ideas as part of the QER and in support of a better energy future.

Sincerely,

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