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WRITTEN TESTIMONY

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Before the 117th Congress, House Committee on Energy and Commerce
Subcommittee on Energy
The CLEAN Future Act and Electric Transmission: Delivering Clean Power to the People
Rayburn House Office Building, Room 2123
Tuesday, June 29th, 2021

Thank you, Chairman Rush, Ranking Member McMorris Rodgers, and distinguished members of the subcommittee. My name is Lee Anderson, and I am the Government Affairs Director for the Utility Workers Union of America, AFL-CIO (UWUA). The Utility Workers Union represents around 50,000 workers in the electric, gas, and water utility sectors. Our members operate utility infrastructure throughout the United States.

In the electric sector specifically, our members operate and maintain power generation assets including nuclear, coal, natural gas, and liquid-fueled powerplants, as well as hydropower assets, utility scale wind farms, solar arrays, and energy storage facilities including those based on both battery and pumped hydrologic technologies. Outside of generation, our members maintain the electric transmission and distribution grid including substation operations, above and below-ground line crews, and even tree-trimming crews. There is not an aspect of power generation, transmission, and distribution which Utility Workers do not have a hand in maintaining and operating. Our members have proudly worked to keep the lights on in America since the early part of the 20th century.

It is a truism at this point that the manner in which the United States and, indeed, the world, generates electricity is evolving rapidly. In that context, however, our Union has always been, and will continue to be, part of a tech-neutral, 'all of the above' approach to power generation. This is simply the lived reality of our members on the ground and reflects an energy mix that we expect to continue for decades, even as systems, fuels, and technologies change over time.

Let me also be clear in stating the Utility Workers Union recognizes global climate change is happening, and that it is the result of man-made carbon emissions. Our union is made up of highly skilled, technically minded people whose every day work involves thinking like an engineer, a mechanic, a scientist. .

We understand perfectly well the science behind the crisis facing humanity and, in seeking solutions, we again look to the science. We ask, how do we engineer our way through this challenge not how do we argue or vote our way out of this. In answering this question there are both opportunities, and challenges, in the power sector.

Transmission Infrastructure Creates Jobs and Enables All Generation Technologies
The point is clear – the need to manage carbon emissions at scale, globally, is urgent. We must decarbonize our economy but, we must do so in a manner that does not crash local and regional economies. For many years, change has been occurring as energy generation assets of various types have been removed or added to the grid, both here in the U.S. and globally, leading to both reductions and increases in carbon emissions. What all of these changes in generation have in common, however, is that new technologies being brought online are utterly dependent on the buildout of transmission infrastructure needed to move their product – electricity – to market.

Just as businesses depend on transportation systems such as roads, railways, ports and air transport for delivery of goods and services, so too does power generation require its own transportation – the wires to carry the electrons that are our industry's only product. A product that is perhaps more fundamental to underpinning the entire economy than any other, making power transmission infrastructure a core building block for the rest of society. There is simply no economic activity in America that is not in some way dependent on affordable, abundant energy to make it possible.

Transmission is much more than just towers and cables. Those are the highways between facilities that convert the electrons carried over miles of cables into usable energy. Besides towers and cables the transmission grid is also made up of many facilities such as switchyards, switching facilities, system facilities, and substations. These facilities are used to monitor and control the transmission grid, stabilize and adjust the voltage between the source of generation and the distribution network, and reduce potential electrical losses and interruptions. It does this in a manner that supplies the greatest return on investment.

The men and women who are members of the UWUA have deep experience in operating, maintaining, and repairing the transmission grid and do so in the most professional and safest manner possible. The positions our members hold and the skillsets they've earned specific to transmission systems include:

- Substation operators
- Electrical Maintenance Substation Journeypersons
- Underground Technicians and Splicers
- Relay and Equipment Performance Technicians
- Arborists
- Transmission Line Patrollers
- Warehouse and Facilities Technicians
- Drivers and Crane Operators
- Transformer Technicians
- Dispatchers

Many of these disciplines require employee to participate in an apprenticeship consisting of 1,000 hours of on-the-job training, plus training modules, performance reviews, and courses delivered by formal training jointly administered through labor-management partnerships and include attendance after hours at community college or formal training facilities. Some disciplines require college degrees and completing an apprenticeship can set an individual up for advanced degree pre-requisites. Because of the highly technical skills required to effectively maintain this nation's transmission infrastructure, many of these jobs earn $50/hour plus paid benefits.

By some estimates, transmission investment holds the potential to create upwards of 240,000 direct jobs just in the buildout of those systems alone.[1] This investment is what makes it possible for consumers to gain access to lower-cost electricity, provides opportunity for high-road, family and community-supporting jobs both in the

[1] *Transmission Projects Ready To Go: Plugging Into America's Untapped Renewable Resources*, Michael Goggin, Rob Gramlich, and Michael Skelly, Americans for a Clean Energy Grid,

construction buildout and in the operation and maintenance of both the transmission lines and the power generation assets that are able to connect to the grid. In order to grow these middle-class, union jobs in the electric utility sector, however, the sector must physically grow to provide ever greater amounts of reliable, affordable power.

The Future of Offshore Wind Starts Onshore

In 2019, a joint offshore wind proposal by developers, labor organizations, and educational institutions was announced that would create a workforce training center in Suffolk County, New York, and training to prepare a workforce to fill jobs in offshore wind as the industry expands. The development of a skilled labor force obviously being critical to the success of the industry, the UWUA was proud to join in supporting the creation of this training center to set the standard for workforce development in this new industry in North America.

With a goal to create 9,000 megawatts of offshore wind capacity just for New York alone by 2035, we see an industry which will require thousands of new workers to be trained for all aspects of these projects. Whether in the operations and maintenance of future wind towers, the maritime trade associated with that work or – perhaps most critically for integrating the power into the grid – the buildout, operation and maintenance of the transmission infrastructure necessary to move the electrons from the towers to the shore and on to load centers, the industry will be a rich source of high-road employment for decades to come.

Elsewhere in New England, the UWUA, through existing relationships with utility employers and new relationships being formed with offshore developers, has begun partnering on large transmission and microgrid projects at several locations along the coast. In studying the requirements for a massive buildout of offshore capacity along the East Coast the Brattle Group conducted a study to compare the potential costs of various offshore wind transmission options. They found that a "planned transmission" approach would be significantly less costly and less disruptive than a project by project or piecemeal approach.

Whatever approach is taken, however, for our members in coastal states some transmission terminations would inevitably land at substations already operated by our utilities meaning that substation upgrades would be some of the earliest work we would undertake in the offshore context. For example, in New York, this could include the Fresh Kills, Gowanus and Rainey substations at a minimum.

In Massachusetts, where the 2,100 MW Mystic powerplant is scheduled to close, it will be replaced by the Mystic Reliability Wind Link. This project will install undersea and underground HVDC cable and conduit from Plymouth to Everett bringing 900 to 1,200 MW of offshore wind into the greater Boston area. The transmission terminations will be at switchyards located at the Mystic site and the former Pilgrim Nuclear station. The project is planned to demolish the station and repurpose the site to support renewable energy.

At the Brayton Point powerplant site, also in Massachusetts, the development of the Anbaric Renewable Energy Center has been planned which will include an offshore wind logistics port, a manufacturing hub and support center, a 400 MW battery storage facility, 1,200 MW HVDC converter station, as well as solar power arrays

In Bridgeport, Connecticut, plans have been made for a 1,200 MW HVDC transmission termination at the Bridgeport powerplant. This would include, at a minimum, substation upgrades as well as a DC converter station. Previously having been the site of one of the last coal-fired powerplants in New England, the project would now share the site availability with the new gas-fired power plant that has been built to replace it, making the site itself a blend of generation technologies.

Suffice to say that, although it is easy to overlook, and not as commented upon as the towers themselves, it is actually in the transmission arena where the UWUA sees the most potential for job growth in the early development of the offshore industry, with an enormous amount of work to be done before towers even start to go in the water. It is likely that new or upgraded substations, for instance, up and down the East Coast will be little remarked upon by the media, nor even particularly associated with wind towers so far offshore that they

cannot be seen. Nonetheless, absent that transmission build-out, offshore wind would remain just that – offshore.

As such, it is our objective over the next few years, as the industry develops, to be at the forefront of working to create, operate, and maintain the critical transmission systems necessary to make the industry a reality. An available and qualified workforce is essential for any industry and ensuring that the U.S. offshore industry has a well-trained, qualified, and safe workforce means getting started now with the transmission infrastructure needed to support the buildout of the towers. Offshore developers, labor unions, colleges and state and federal governments should all capitalize on the initial collaborations begun in this area and work together to develop training and skill enhancement for the existing energy workforce and create entrant opportunities for new workers.

Finally, the UWUA also believes it is important to maximize U. S. offshore wind jobs by building a domestic supply chain for development and deployment of these transmission systems. An important component of this domestic supply chain is a robust domestic workforce – across the whole supply chain, from our viewpoint not only construction and development, but also operation and maintenance services of offshore wind turbines and onshore substations, including upgrades to existing infrastructure. Some studies suggest that the OSW operation and maintenance workforce could be as high as 20% of the overall workforce. Because of this, the logistical benefits of ensuring a qualified local workforce should be paramount.

Transmission Lines As Economic Lifelines – TerraPower Nuclear

In March of this year, President Biden introduced the American Jobs Plan which calls on Congress to invest $100 billion to build a more resilient clean electricity system through incentives to buildout transmission infrastructure. As was stated in April at the Leaders' Summit on Climate President Biden reaching 100% carbon pollution-free electricity by 2035 means the creation of good-paying jobs throughout to build, operate and maintain these systems. This means line workers will lay thousands of miles of transmission lines for a clean, modern, resilient grid and a long-term workforce to ensure the system continues to provide carbon free, clean energy power for decades to come.

It also means, however, that in order to meet our country's clean energy goals, we must also develop and deploy low-carbon solutions quickly and at a scale large enough to accelerate the change that is required to achieve those goals. Energy technology breakthroughs – like advanced nuclear reactors will be needed to make this a reality. Two months after President Biden's statement, Secretary Jennifer Granholm, Governor Mark Gordon, Senator John Barrasso and Bill Gates came together in Wyoming to announce that an advanced nuclear reactor, built in partnership by TerraPower and Pacificorp would be located in the state.

This is exactly how an already existing and experienced workforce will pave the way to an all-of-the-above energy future. The health of our communities, well-being of our members, and competitiveness of our economy requires this type of action at scale. Training former coal-fired powerplant workers to operate and maintain a nuclear powerplant not only solves a challenge utilities face as they work to enhance grid reliability and stability while meeting decarbonization and emissions-reduction goals, but also supports high-paying, union jobs that will last decades while re-establishing a highly specialized nuclear talent pipeline. UWUA members will be helping to create the energy grid of the future with clean energy projects like the advanced nuclear reactor in Wyoming.

Prior to the announcement of the TerraPower project, our members in Wyoming were facing a scenario that has become all too familiar to those in the fossil energy sector – full closure of multiple coal-fire powerplants. What this scenario has meant in the past has overwhelmingly been the loss of the highest quality jobs for many miles around, with little opportunity to replace them, absent moving to distant states in search of new work. The economic and social effects this has had on other UWUA communities has been devastating as communities empty out, the social fabric unwinds and economic opportunity dries up. The TerraPower nuclear project effectuates a one hundred and eighty degree turn around in future prospects for those power generation workers

and their communities in Wyoming, however. Rather than pulling up stakes or attempting to retrain for what would inevitably be lower quality work, our members will now have the opportunity to reskill and upskill to move into the nuclear industry – right in their own backyard.

As coal generation in Wyoming primarily sends power to load centers outside the state, it is obvious that it is ultimately robust, resilient transmission infrastructure that actually makes it possible to decarbonize those load centers while continuing to provide high quality, family and community supporting jobs in Wyoming. Without the energy highways linking our members in Wyoming to large population centers in surrounding states, the future of energy in Wyoming would be bleak. In this respect, transmission lines are truly economic lifelines for what would otherwise be stranded workers and communities.

Transmission Tax Between Regulated Utilities and Non-Utility Power Producers

To ensure that the utility sector, made up of companies with one of the highest union densities in the United States, can compete on a level playing field with other power providers using little if any union labor, investment and production tax equity will be needed. For large, high-voltage transmission lines to be built out, we would be handicapping ourselves if utilities are not able to compete to build these projects, thereby raising costs for customers, slowing high-road job creation, and limiting technology innovation.

In order to achieve the carbon reduction goals set out by Congress and the White House, widespread and significant major capital investments will be required by utilities over the next several years to achieve our clean energy goals. It is important that this be done to the greatest degree possible with the type of high road jobs created through the use of a unionized workforce, as is found among regulated utilities, where workers who have the best expertise and training build, operate and maintain the infrastructure that powers America.

By providing utilities equitable tax treatment with non-utility power providers, union members – including our members – can continue to play a significant role in assuring that consumers have the benefit of new clean energy generation at low-cost while bringing reliability and resilience to the grid. The partnerships we have built with regulated utilities have been reducing carbon emissions from the electric power sector to their lowest level in more than forty years.

Conclusion

In summary, although workforces and communities will doubtless face many challenges as the manner in which we generate power evolves, we also see reason for optimism as the future workforce – including our members – gear up for what's coming next. Energy sources including fossil energy with carbon capture technology and existing nuclear plants, combined with renewables and next generation nuclear power are an engineering response to the climate and energy challenges we all collectively face.

If the future of power generation is tech neutral, as we believe, nothing is more integral, nor more tech neutral, than the transmission systems – the energy highways – that will carry the electrons from every power source to load centers around America. Transmission systems keep the lights on, and keep the economy functioning. Nothing is more fundamental to the health and growth of the nation than investing in these systems, as well as the workforces and communities that rely on them for jobs, revenue and security.

We thank you for the opportunity to be a part of today's proceedings and look forward to working with the Committee as we move boldly into the future.

Biography

I represent the Utility Workers Union of America (UWUA) as their Government Affairs Director, heading up the union's legislative, policy, and political work in Washington, D.C., working with the Administration and offices on both sides of the aisle on Capitol Hill.

Prior to joining the UWUA, I was the Director of Legislation and Policy for the BlueGreen Alliance, working with a variety of unions, including the UWUA, as well as a number of national environmental organizations, in areas including clean energy, worker health and safety, energy transition policy, infrastructure funding, and land use issues.

I have also previously worked as a labor and employment attorney with the Provost Umphrey Law Firm, representing unions and individual workers on issues including union organizing and bargaining, employment discrimination, overtime wages, and pension issues. I have also taught these topics as an adjunct lecturer at Middle Tennessee State University. Having been admitted to practice law in Arkansas, Wisconsin, Tennessee and Iowa, I have advocated for worker rights at all levels of government.

Originally from Iowa, I received a B.B.A. in Finance from Iowa State University in 1990 and a J.D. from the Drake University School of Law in 1995.