Resolution 23-07
Sponsors: JEA; Roseville Electric Utility; City Utilities of Springfield; Wilson Utilities Department; Florida Municipal Electric Association; Northern California Power Agency

In Support of Federal Efforts to Address the Supply Chain Crisis for Distribution Transformers

Throughout 2022, the electric sector called attention to a growing supply chain crisis that hampered its ability to meet the demand for maintenance and growth on the electrical grid. Public power utilities continue to have significant challenges procuring needed equipment, specifically distribution transformers, to maintain a reliable grid. In an American Public Power Association (APPA) survey of public power utilities, 80 percent of respondents reported having fewer distribution transformers in stock than they did in 2018 and 30 percent said that they were at high risk of running out of stock within a month. The survey found that lead times to purchase new distribution transformers had grown 429 percent, from three months in 2018 to an excess of 12 months or more in 2022. Some public power utilities reported purchasing lead times of up to three years, with others reporting that manufacturers had stopped accepting orders. Since that survey, problems have only gotten worse. Large power transformers, smart meters, conductors, and other critical grid components have rapidly accelerated up the list of supply-constrained items.

Every year electric utilities prepare for the various storm seasons by stockpiling supplies. When disasters occur, destroyed equipment needs to be replaced to enable quick power restoration. The severe shortage of critical parts makes this preparation nearly impossible, leaving many utilities without reserves.

The U.S. was hit with a major hurricane in 2022, further dwindling electric supplies. Utilities relied on their existing inventory of transformers and other measures to bridge the gap between equipment purchase and arrival. Utilities took extraordinary measures to deal with the limited supply of equipment available, including refurbishing older equipment and identifying swapping equipment in the field to generate spares from underutilized equipment. These are last-ditch efforts to ensure the safety of electric customers and sustain other sectors that depend on electricity.

The supply chain crisis for critical grid components is having an adverse impact on the economy and impacting clean energy goals. Shortages of distribution transformers have caused public power utilities to defer or cancel one in five infrastructure projects that would require more resources than available. Many of the industry's planned projects are designed intentionally to transition to cleaner energy resources, and significant construction delays have the potential to put the nation's clean energy objectives at risk. In addition, the transformer shortage is impacting the housing market, with construction companies being required to use generators to keep their job sites powered while utilities look for transformers to feed new electrical loads.

Public power utilities have united with rural electric cooperatives and investor-owned utilities in alerting manufacturers and the federal government to this crisis. The electric sector spent the better part of 2022 educating the Department of Energy regarding the existence of the crisis, identifying underlying conditions creating the crisis, quantifying the size of the constraints, and identifying and offering potential solutions to address the problem. Public power utilities in hurricane-prone regions sent letters to the Federal Emergency Management Agency alerting them to the potential impacts of restoring power from the lack of adequate stocks. Some electric utilities were forced to alert industry partners that they may not be able to assist in mutual aid efforts due to a lack of supplies.

In June 2022, President Joe Biden authorized the use of the Defense Production Act to accelerate the domestic production of clean energy technologies and critical power grid infrastructure, including transformers. Public power, rural electric cooperative, and investor-owned utility trade associations and building trade groups advocated for these authorities to be used to address labor and materials shortages for manufacturers through increased appropriations.

Despite overwhelming evidence of the supply chain crisis and its impacts on the sector and the economy, adequate actions were not taken to abate this crisis by the manufacturing industry or the federal government.

NOW, THEREFORE, BE IT RESOLVED: That the American Public Power Association (APPA) urges immediate federal efforts to address the current supply chain crisis for critical grid components, such as transformers, which threatens public power utilities' ability to provide reliable and affordable power; and

BE IT FURTHER RESOLVED: That APPA requests the Department of Energy utilize Defense Production Act authorities to immediately increase the production of distribution transformers and urges Congress to appropriate adequate funding toward those authorities; and

BE IT FURTHER RESOLVED: That APPA urges the federal government to adopt policies to further the development of the domestic production of transformers and to work directly with manufacturers to identify short and long-term solutions addressing the root causes of the distribution transformer shortage.