



## **DANIEL DEMPSEY**

### **TEP's responsibility to economic development**

#### **TUCSON OPINION**

*The following is the opinion and analysis of the writer:*

The beauty of a place matters. It matters in attracting tourists, businesses, and residents. It matters for economic development. It is why the University of Arizona and its donors have invested in its campus and facilities. It is why Arizona State University and Tempe have undergrounded electric lines adjacent to ASU's campus. It is why Chandler, Scottsdale, and more have required the undergrounding of electric lines for decades.

Like those cities, in the 1980s, after a decision against APS by the Arizona Supreme Court that upheld the right of municipalities to require undergrounding at utility expense, successive Tucson councils have passed specific plans and ordinances that prescribe the undergrounding of electric lines in strategically important areas. Despite Tucson's modest approach relative to some other cities, TEP has desperately fought to ignore and undermine our laws. Why?

The principal reason TEP — like APS in the 1970s — objects to undergrounding is cost. But what if cost is less of an issue relative to the past? What if TEP's thinking is outdated? Fortunately, in the last half century, the upfront plus maintenance and operation cost of underground lines has fallen significantly, while the cost of above-ground lines has risen. New technologies have transformed the manufacture, installation and maintenance of underground lines, while worsening weather has altered the economics of above-ground lines.

For example, in the 1970s, APS installed 14 miles of underground transmission lines in fluid-filled pipes from what is now Chase Field to Sunnyslope to benefit Central Phoenix. As you can imagine, maintaining pressure in fluid-filled pipes is much more expensive than maintaining an above-ground line. In response to the maintenance cost issues with these older technologies, industry developed an extremely low maintenance underground technology called XLPE wire.

A recent study shows that if XLPE wire does not fail in the first months of operation due to a manufacturing or installation defect, and is operated responsibly, it can last 100 years.

Compared to underground lines, exposure to weather is a major problem for the reliability and cost of above-ground lines. According to NOAA, in the last 20 years, the number of severe weather events costing \$1 billion or more has tripled. And, according to the EIA, average electricity outage time due to major weather events has been steadily growing. Underground lines are protected from weather like lightning, wind, and microbursts; and from hazards like vehicular accidents, wildlife, and balloons. Moreover, underground lines are less dangerous to humans and property. Indeed, due to the deadly and damaging fires caused by downed power lines in California and Hawaii, insurers are starting to charge utilities higher rates for above ground lines compared to underground lines.

If these trends continue, which experts say is likely, the total cost of ownership of above ground lines — meaning the installation cost plus the maintenance and operation costs over the life of the asset — will exceed the total cost of ownership of underground lines in many situations. In fact, underground lines may prove to be a long-term competitive advantage for first-mover cities.

Fighting for undergrounding is fighting for beauty and economic development. It is fighting for reliability and resiliency. It is fighting for infrastructure hardening and the safety of the community. And, as it turns out, it may be fighting for substantial cost savings.

Mayor and Council are doing a fantastic job holding the ground claimed by prior councils. The neighborhoods, the university, the business community, and even TEP, should fight for the expansion of undergrounding requirements. Above ground transmission lines should not be run through any neighborhoods. Clustered utility poles on streets should be cleaned up. There are countless examples of good law from other cities to follow. We can improve and protect the beauty of our community and increase the reliability and safety of our electrical system while lowering long-term costs — it is not a binary choice.

Daniel Dempsey is a former licensed equities research analyst for energy companies at a major bank. He is a member of TEP's Neighborhood Advisory Group and co-founder of Underground Arizona.

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