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5 Legal Issues Facing Electric Vehicle Charging Projects

By **Levi McAllister** (April 22, 2021, 4:58 PM EDT)

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Electric vehicle sales in the U.S. are on the rise. Over the last 10 years, sales of plug-in electric vehicles have steadily increased, with nearly 327,000 EVs sold in U.S. auto markets in 2019 alone — an increase of nearly 1,900% over sales in 2011.[1]

Analysts, policymakers and market participants are projecting continued EV penetration into U.S. markets. This article analyzes the existing U.S. market for EVs, and identifies five key threshold issues that are relevant to certain market participants affected by EV penetration.

Recent EV Growth Trends and Projections

In 2011, slightly more than 17,000 EVs were sold in U.S. markets. In 2016, EV sales totaled about 160,000, and then reached an all-time high of 361,000 in 2018.

Although there was a slight decline in 2019 and 2020, other nonsale indicators suggest that EV penetration will increase into the future. For example, the amount of load that EVs represent has increased significantly.

According to S&P Global Platts, in 2018, EVs required 2.94 terawatt-hours of electricity. In 2020, EV load requirements were 4.68 TWh.[2] That increase in load is consistent with nonauto capital investments made in the EV sector through the installation and deployment of charging stations.

At the end of 2018, only a little more than 64,000 public charging stations were installed in the U.S. Only two years later, by the end of 2020, approximately 96,000 public charging stations were installed and operating across the country.

Further, analysts remain bullish on the prospects for continued EV growth in U.S. markets. Although projections vary, the emerging consensus among industry analysts is that several million EVs will be on U.S. roads by 2030.[3] Wood Mackenzie Ltd. forecasts that 78% of automobile sales in North America will be EVs by 2050.[4]

These forecasts are buttressed by the public statements and actions of both automakers and utilities. While the former segment is consistently announcing new or expanded commitments to developing EVs in their vehicular fleet offerings, the latter segment is increasingly announcing involvement in the

development of charging infrastructure, and revisions to existing rate design models to account for increased EV deployment.

White House Emphasis on EV Growth

The election and inauguration of President Joe Biden are widely considered to be a catalyst for facilitation of continued EV deployment on U.S. roads. To date, Biden has emphasized his administration's support for continued growth of EVs in two ways: (1) through the issuance of Executive Order No. 14008; and (2) through the White House's proposed American Jobs Plan.

EO No. 14008, issued in January, addresses, among other things, procurement of a federal EV fleet. Under Section 205 of the order, Biden mandated the development of a comprehensive plan that would aim to use all available procurement authorities to achieve or facilitate clean and zero-emission vehicles for federal, state, local and tribal government fleets.

In the American Jobs Plan, the White House proposes a $174 billion investment to spur the development of EVs and charging infrastructure. Through that investment, the plan would establish grant and incentive programs to develop a network of 500,000 charging stations, and would aim to replace or otherwise electrify 50,000 diesel transit vehicles and 20% of existing school buses nationwide with EVs.

The American Jobs Plan also proposes funding to electrify the federal fleet of vehicles, including U.S. Postal Service vehicles, and proposes the continuation of certain tax incentives and creation of new point of sale rebates for purchasers of EVs made in the U.S.

Relevant Legal Issues

In order for widespread EV use to become a reality, practical issues confronting market participants in the sector must be addressed and resolved. Below are five key considerations.

Ownership of Charging Stations

The first question that any transportation electrification initiative must resolve is the question of who is permitted to own charging stations. This is a matter that is resolved on a state-by-state basis.

At its core, this issue concerns whether utilities or nonutility entities are permitted to own a charging station, or whether utilities are permitted to own only portions of the charging infrastructure, while nonutility entities own the actual charging station.

This latter option — in which utilities focus on the electrical infrastructure for chargers, called make-readies, and leave deployment and ownership of the chargers to private providers — appears to reflect a compromise of sorts that some state regulatory agencies have adopted.

In that model, the property owner or lessee and the nonutility charging company are responsible for charging station installation, ownership, operation and maintenance. Utilities are responsible for installing the wiring and conduit necessary for the charger's operation. As a result, utilities remain involved in charging station planning, and are critical to ensuring that distribution grid infrastructure is adequate to support the increased load.

In contrast, some states have signaled support for, or willingness to allow, utility ownership of charging

stations. For example, the Nevada Public Utilities Commission has authorized utility construction, ownership and operation of charging stations as part of a grid modernization initiative, subject to state regulatory rate regulation on EV charging rates.

Likewise, the Washington Utilities and Transportation Commission has previously approved a pilot program for utility installation of both Level 2 and DC fast charging stations, subject to a cap on the number of stations the utility may own. And, for its part, the Oregon Public Utility Commission approved a similar pilot program in 2018 in which utility ownership of a very limited number of charging stations was authorized.

Regulatory and Jurisdictional Status of Charging Stations

Generally, state regulatory commissions regulate the operations and rates of entities that are public utilities, or perform public utility functions.[5] Thus, a key question to consider prior to developing charging station infrastructure is whether the state in which the infrastructure will be located considers charging stations to be public utilities, subject to regulatory oversight similar to other public utilities in the state.

Currently, at least 24 states and the District of Columbia have addressed the issue. In each of those circumstances, the state regulatory body has determined that charging stations should not be regulated in the same manner as a state-regulated utility.

Although the rationales underlying those determinations vary, one argument that has proven persuasive is that the station owner's decision to not seek rate recovery or a return on their investment from ratepayers avoids triggering the public utility status.

To be sure, some state regulatory agencies have definitively ruled that charging stations are not public utilities, while others ruled only that the state agency lacks jurisdiction from existing state statutes to exercise oversight. The Alabama Public Service Commission is one example, ruling in 2018 that it lacks legislative authority to regulate charging stations.

This is a distinction with a difference, however — because such rationales leave open the possibility for state legislative changes that provide state regulators with clear authority to regulate charging stations. Further, it is possible that some state agencies may in fact exercise regulatory oversight of utility-owned charging stations.

The Maryland Public Service Commission did just that when it determined that it has authority to regulate charging infrastructure when owned by existing public utilities. It remains to be seen whether non-utility-owned stations would similarly be subject to oversight.

Demand Charge Management For Charging Stations Owners

Demand charge management is often one of the biggest challenges that owners of EV charging stations confront. In short, demand charges are fees that a utility assesses to customers as part of its rate design that are based on the highest amount of power drawn, or demanded, by the customer during a defined period of time in a billing cycle.

Demand charges are not tied to the total load requirement of a customer that visits a charging station, or the total amount of power consumed by the charger. As a result, demand charges can be challenging

for the financial viability of a charging station owner's proposal to develop a network of charging stations.

Although some U.S. utilities are exploring alternatives to demand chargers, as discussed further below, station owners must presently consider how to grapple with the impact of those charges on the projected economics of a project. One possibility for consideration: siting a battery storage project adjacent to a network of chargers, in order to mitigate the impact of demand charges through a leveling of the charging station's demands.

As battery prices continue to decline, widescale siting of such projects in addition to chargers — similar to a solar-plus-storage model — could produce better economics for a proposed project than those realized by a network that is routinely subject to demand charges.

Mitigating Load Curve Impact Through Managed Charging

Analysts expect that as EV deployment continues, existing load curves will be reshaped, with an increase in evening peak loads being the most prominent change. This makes sense, because EV owners will return home from work, pull into their garages and plug in their EVs all within the same hour, or several hours, of one another.

However, if steps can be taken to facilitate charging at times of low demand, EVs then reflect a potential opportunity for increased grid flexibility, rather than a strain on peak demand periods. The idea of managed charging, or smart charging, presents that opportunity.

Managed charging allows a utility or other third party to control vehicle charging, in order to better correspond to the needs of the grid. This renders EVs similar to demand response resources.

Further, after interoperability issues are resolved in the future, EVs could also serve as an additional resource to grid management through the provision of vehicle-to-grid services. This would allow EVs to discharge stored energy onto the distribution grid when needed.

Utility Rate Design Revisions

Throughout the development process, it is critical for an EV charging station owner to be mindful of applicable rate design options that might apply to the utility's supply of power to the charging station.

Because EVs represent a new area for load growth that could, in the aggregate, materially impact grid operations, many states are confronting various rate design proposals that address EVs, encourage off-peak charging and help grid stability. Three illustrative rate design structures are time-of-use rates, real-time pricing and EV-specific rates.

Time-of-use rates apply prices that vary by time period — prices that are higher in peak periods, and lower in off-peak periods. A simple version of this involves two pricing seasons. A time-of-day rate is more complex, but could have two pricing periods within a day.

Regulators in California have approved a time-of-use rate for one utility that is intended to encourage charging during off-peak and even super-off-peak periods. It also limits charging during evening hours. As an added incentive to EV charging station owners, the time-of-use rate approved in that circumstance also provides a waiver from demand charges for several years.

In contrast, real-time pricing features prices that vary hourly or even subhourly throughout the year, for some or all of a customer's load. Customers are notified of the rates in advance, in some instances the day prior to the rates, or on an hour-ahead basis.

In the context of EVs, this approach gives EV charging station owners the maximum flexibility in operating their stations in a way that mitigates the highest prices. Of course, it also requires ongoing monitoring of applicable rates.

Finally, it is important to note that some state regulators and legislatures are exploring the imposition of rates that are specific to EVs. For example, a utility might consider proposing a commercial tariff that provides for rates applicable only to EV charging station owners, in an effort to address the fast and energy-intensive nature of a charging station.

In that vein, proposed legislation in New York would require utilities to propose commercial tariffs for fast charging in an effort to help fleet operators go electric. There are further issues inherent in such a proposal, such as the utility's and charging station owner's resolution of how charging energy can be effectively and accurately metered.

Conclusion

The road to greater EV deployment is paved with legal issues for both nonutility owners of charging infrastructure and the utilities that operate the grid to which the charging infrastructure interconnects.

Since EVs, unlike internal combustion vehicles, rely on electrons as a fuel source, EV penetration in the U.S. raises interesting questions concerning charging as well as impact on load profiles and the distribution and transmission grid. The issues discussed in this article are only some of the most common that market participants currently confront. They can all be solved with careful consideration.

Given the historical trends and future projections surrounding EV development, it is important for EV stakeholders to pay close attention to these and other issues as the sector evolves.

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[1] See U.S. Plug-In Electric Vehicle Sales by Model, U.S. Department of Energy, available at https://afdc.energy.gov/data/10567.

[2] U.S. EV Sales tumble in 2020, but EV load increases with more charging stations, available at https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/012821-us-ev-sales-tumble-in-2020-but-ev-load-increases-with-more-charging-stations.

[3] See, e.g., U.S. EV market sales to rise to 6.9 million units by 2025, available at https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/111920-us-ev-market-sales-to-rise-to-69-million-units-by-2025-frost-amp-sullivan. U.S. Electric Vehicle Sales Forecast:

2019-2028, Loren McDonald/EVAdoption.com, available at https://evadoption.com/ev-sales/ev-sales-forecasts/ (over 3 million by 2028).

[4] 700 million electric vehicles will be on the roads by 2050, Wood Mackenzie, available at https://www.woodmac.com/press-releases/700-million-electric-vehicles-will-be-on-the-roads-by-2050/.

[5] The term "public utility" may not be the precise term used in each state; variations such as electric company or utility may instead be used. Nevertheless, the underlying concept remains valid: State regulatory bodies regulate entities that perform a function for the public benefit.