

December 13, 2018

California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814
RE: December 13 & 14 Board Meeting Public Comments

Dear Board Members,

I am writing to share my experience at the Electrify America DCFC at the San Francisco Premium Outlets in Livermore, CA. In a word, it was horrific. This is a real shame because it doesn't need to be so; indeed, if we are going to enjoy the benefits of Governor Brown's EV adoption goals it must not be this way. The issues I experienced are discussed below.

ICE-ing

ICE-ing is the problem of internal combustion engines (ICE) cars occupying a spot that is dedicated for charging. This is a chronic problem throughout California and the mall in Livermore is no exception. When I arrived at EA's DCFC location at the mall in Livermore nine out of the 10 spots were ICE'd. More than \$1M has been invested in this site to benefit the public, yet it largely goes unused because of a mixture of willful ignorance and arrogance.

After arriving to learn that all spots were occupied, I waited for a car to move and one soon did. Yet another (ICE) car cut me off. I explained they could be towed under CVC 22511, but they scoffed and walked off. I called security, who, under CVC 22511 is the only entity that can call a tow truck. Security scoffed. I called the police, who can issue a citation under CVC 22511.1 and *they* scoffed.

I have been working to try to move the needle on anti-ICE enforcement for five years. First as a voter and then as a member of the Board of Directors for the Electric Auto Association. In short, legislators don't see the need as laws are already on the books, private property owners simply aren't going to tow customers and police can't be bothered with such trivialities.

Other states and municipalities effectively enforce or otherwise support anti-ICE legislation. I implore CARB to use their influence to seek enforcement of the statutes on the books and also to seek improved legislation that will clearly allow police to cite offenders on private property.

Payment System/User's Interface

Needing to charge to continue to my next destination and with no available charging spots, I parked illegally so I could plug in. My credit card was refused. My secondary credit card was refused. My ATM card was refused. My iPhone tap-to-pay was refused. I called the toll-free number and was greeted by a cheerful and competent person. After retrying a couple of times,

they decided the machine needed to be rebooted; this took several minutes. Finally, they were able to get my payment system through after a system reboot and I was able to get ~15 minutes worth of charge; sufficient to get me home. Nevertheless, I had wanted to charge to 100% and even see how the system responded to going overtime and how a warning regarding idle fees might be communicated. So when an opportunity came to move my car to a proper parking stall, I moved my car only to find....

Insufficient Cord Length

When I had parked illegally, I was able to park diagonally so that my car was at an angle with respect to the charger. This helps the problem of insufficient cord length, yet it was still difficult to get the plug to reach my car's charge port. When parked "correctly," it was nearly impossible to get the plug to reach my car's charge port.

But with the car parked as intended, perpendicular to the charger, the cord length is a significant factor for cars that have the charge port on the quarter panel (as opposed to the front grill) as my car's charge port is. This is because the cord must make a 90° turn, which uses up some cord length. After I had moved my car and parked legally, I had to get my car's front bumper less than 6" from the metal parking barriers that protect the chargers before I could plug in.

Remember the discussion trying several payment systems? And rebooting the machine? Each attempt was accompanied by a requirement to unplug the car and start again. The cord is barely long enough and each time I had to plug in, unplug and then replug in, it required me to use a significant amount of my body weight to pull the cable to get it to reach. The plug is also quite stiff and rotating the plug to the proper orientation took both hands. The mental image I want to paint is me firmly planting my feet, pulling the cord with significant effort while simultaneously gripping the plug with both hands so I can keep it upright. I went through this ritual several times as I tried to speak with an agent on the phone to get the machine to accept my credit card. I am no Arnold Schwarzenegger, but I am at least average strength and getting the cord plugged in was no small feat. Many people would not possess the strength to do it. Most would simply give up at the futility of it.

Then I foolishly moved my car to a legit parking spot where the problem of cord length is worse. And I was forced to go through the same ritual of trying several different cards, calling the toll-free number, trying again. All while unplugging and replugging in after each failed card attempt. And then the nice person on the phone wanted to reboot the second machine. That's when I gave up. I had enough charge to get home and decided that the EA charging experiment wasn't worth continuing.

It is entirely possible that the trouble I had with the payment system was really due to cord length -- the plug, while locked to the car, had visible pre-load. I've experienced similar issues with the weight of cables needing to be offloaded before a charge session could be initiated. However, with the EA DCFC, it is impossible to offload the weight of the cable; it is simply too short.

In Summary

The payment system and cable length are the easy problems to solve. Add 24 to 36 inches of cable for crying out loud and save yourself the grief of your customers' complaints. Fix the payment system (if indeed that is the problem). In short, the colloquial term here dogfooding. Look it up if you're unfamiliar with it.

The real problem here is that of allocating charging spaces for *charging*. This requires a multi-prong approach. **Better signage**, including **painting the spaces**, **lease terms** that require lessors to enforce the **laws** and finally, **legislation** that doesn't rely on private parties (i.e. mall security) to tow the vehicles of their customers, and **legislation** that unambiguously allows police to cite on private property.

The former items are things that Electrify America should be able to solve. The latter items are more difficult to solve, but solving them is what we must do because ICE-ing remains a significant barrier to EV adoption.

Sincerely,

John Higham