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Subject: NJ Electric Vehicles Infrastructure Ecosystem 2020 Straw Proposal

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The Straw Proposal appears to be primarily targeting sites which will be used for Electric Vehicles (“EVs”) to use as fossil fuel station replacements. While I acknowledge this is a requirement, particularly along “travel corridors”. These sites require the DC Fast Chargers capability and will/may require the Electric Distribution Companies (“EDCs”) to invest to provide the necessary infrastructure.

I suggest that in order to get general public acceptance of EVs, the staff should place additional emphasis on Level Two Community Locations. In addition of a target of 1,000 Level Two publicly available chargers by 2025, I suggest adding a target of having 1,000 Level Two Community location sites by 2030, which I believe would correlate closely to the number of gas stations in the state. As the time needed to charge an EV is much longer than to fill a tank, number seems sufficient to support a full EV community.

I would also suggest two site classifications: **Convenience** and **Destination**. I would define these as:

**Convenience:** Locations where people do routine services and are likely to stay 20 to 90 minutes. The objective of these locations is to ensure that the general public would feel confident they will always be able to get to and from these destinations. This will go a long way toward eliminating the wide spread fear among a large portion of the population of going to a pure EV car.

These locations will enable the public to feel “mileage secure”, that is to add mileage to their cars whenever needed. Technically that would be to add charge to their not depleted batteries but not necessarily top them off. Examples of this include: shopping locations, restaurants, and health clubs. At these locations DC Fast Chargers would not be a requirement. Level Two chargers would be sufficient to permit an EV to add 12 to 75 miles in range in a typical visit, depending on EV battery charge and Type Two power ratings.

These locations would be expected to have many Level Two chargers, perhaps 5-15% of their parking spaces. They may choose to put chargers by spots on the edge of the parking area, thus limiting the infrastructure in the middle of the parking area, where infrastructure damage by drivers parking or by snow plowing would be most likely.

Notes:

- 1) Locating along the edge of parking areas would also minimize business disruption during installation in the parking areas.
- 2) EDCs should be able to consider future site growth in their installation planning. For example, a site might put in 5 charging stations, but find they want 10 in a couple of years. Hopefully the local site work would not need to be redone completely.

By limiting these locations to Level Two chargers, the EDCs should be able to avoid the highest peak demand required by DC Fast Chargers. In the Level Two charger use case, the EDC should be able to put the capital cost into the general rate case.

If the Convenience location wants to install DC Fast Chargers, it may be reasonable to include some “beneficiary-pays” model. This should be limited to the increased cost of the local installation over the installation of a Type Two model. For example, if the EDC needs to run a heavier cable from the closest pole or transformer, the charge would be the difference in the physical cable cost. The labor and transmission infrastructure would go into the general rate case capital cost. This difference would and should be sufficient to make the EVSE location owner consider the cost/benefit.

**Destination:** Locations where people go and expect to spend more than 6 hours. The objective of these locations is to permit charging for travelers who need or want a full charge for their cars. This would permit people to buy EVs *even if they don't have Type Two chargers at home*. Thus multi-unit housing residents would be able to buy an EV if their commuting or workplace provided charging options.

These locations would include: commuter parking locations, commercial work locations, and hotels. The Type Two chargers should be the 22 kW variety to provide a full charge in 6-8 hours.

For commuter parking locations, such as NJ TRANSIT Park and Rides, it might be beneficial to encourage the EDC to own and operate the Electric Vehicle Service Equipment (“EVSE”). The EDC is probably in a better financial, operational and employee skill position than a transportation entity.

Commercial locations may also be able to match EV charging with solar arrays (PV). The NJ BPU solar Transition Credit (TC) and Federal Investment Tax Credits (ITC) incentive matched with employee charging benefits could be an strong employee recruitment / retention benefit to the employer. The NJ commercial solar installers would then have a new market. Their staff would also have the necessary skills to install, operate and maintain the EVSE. This would also mitigate the transmission system requirements.

I have registered for the EV Stakeholder Meeting on June 3.