

Alaska Electric Vehicle Working Group

Technical Session Nov. 24, 2020

Fleet vehicle discussion - Pilots and Data Collection

Intros

Michelle Wilber – Alaska Center for Energy and Power (ACEP)

Tim Leach - SparkBox

Stretch Blackard – Tok Transportation co-director

Josh Craft – Matanuska Electric Association (MEA) Grid Modernization Manager

Sean Skaling – Chugach Electric Association (CEA)

Chris Pike – ACEP

Shaina Kilcoyne – Municipality of Anchorage (MOA)

Pierce Schwalb - Municipality of Anchorage

Denise Guizio – Capital Transit, Juneau

John Jantz –

Alec Mesdag – Alaska Electric Light and Power (AEL&P)

Brian Winnestaffer – Chickaloon Village Director of Transportation

April Woolery – Alaska Department of Transportation and Public Facilities, Northern Region Planner

Taylor Asher – Alaska Energy Authority (AEA)

Anrea Tousignant – Ions for EVs

Matt Bergen – Kotzebue Electric Association

Clay Koplin – Cordova Electric Cooperative

Kirk Warren - AEA

Discussion

Stretch Blackard

Tok Transportation received an electric school bus, Thomas Bus w/ a Proterra battery pack. AEA grant supported purchase of bus. Tok Transit installed a solar PV system to offset some of the diesel-powered-grid electricity.

The bus charger set up to pull 9 kW. The solar PV has been producing about 5 kW at mid-day recently/ 220 kW battery pack on bus. Morning route 20-35% of charge for 35 miles.

Solar array 10,800 watts over 36 panels.

The bus was received in mid-October and put into service on Oct. 20

The bus is designed to cool batteries while charging to prevent overheating. The bus is operating within its expected range. When the bus is operating at -35°F Tok Transit sees about a 50% drop in the nominal range.

The heating system uses a coolant that runs through a radiator and collects heat from an electric heater. Tok Transit has added insulation to battery pack, heating unit, and duct work. On the cold days with heaters set to medium the bus has kept the heat inside the passenger area above the required minimum temperature of 45°F

They run 4 other buses, which are diesel. They do not use telematics. Stretch is planning to track the energy consumption on the diesel buses so he can compare E-buses and diesel.

MEA

MEA has been looking at Class 6 trucks, however, the economics don't look favorable for MEA's use at this time. MEA is also looking at light-duty EV trucks as well and is looking forward to the electric F-150s, Rivians, Tesla trucks. MEA has also looked at installing a level 3 charger to support the fleet vehicles, however, the cost of doing so will likely be too high unless there are multiple fleet vehicles served.

25 kW DCFC charger at Chevrolet of Wasilla

CEA

CEA has a 2017 Chevy Bolt that is used for employees to gain some experience. In the coming years they are looking at trucks for lines crews.

CEA has an incentive program for Commercial members who are hoping to electrify their fleet.

CEA is one of the few sources of energy use data for EVs when parked.

Pierce Schwalb & Shaina Kilcoyne

The Municipality of Anchorage (MOA) started the EV journey in 2016 with a Chevy Volt. Then in 2017 purchased a Chevy Bolt. The vehicles are used by staff to get around town. One of the nice things about the vehicles is that you can use the app to get them to warm up before you get in it.

The MOA is starting a project, funded by the U.S. DOE, with partners AEA and ACEP. The heavy-duty garbage truck and box truck are both about twice the cost of normal vehicles.

The MOA will have two different types of charging stations.

- ChargePoint CPF50 12 kW unit installed on an 80 amp circuit, and designed to deliver 50 amp max current. Designed to charge overnight.
- eCamion battery-tied fast charger is designed to provide 150 kW of charging and help with peak shaving to avoid high demand charges.

In Jan. box truck, charging station in summer, garbage truck by the end of the year.

While the capital costs are higher, the data will help us understand if there are operational savings, as expected.

A new transfer station is being built across the street from the current location. The charging station is designed to be moved to that location. The design of the new facility is going to accommodate the future installation of charging stations for all 16 heavy-duty vehicles. Solar PV and CHP will be incorporated in the facility. The Muni is trying to future proof the facility.

Estimated efficiency for refuse truck is expected to be 3.8 (driving) to 9 (Automatic Side Loading) kWh/mi

The use case of refuse trucks is ideal for electrification due to the stop and start activity.

The muni is interested in encouraging EV adoption in its various departments and is considering whether to have departments compare EVs against ICE vehicles.

Fleet outreach is a big part of the DOE grant as well. MOA will use the data that ACEP will collect on the pilot project for outreach to other fleet operators.

Denise Guizio

Capital Transit has three 2018 Chevy Bolts. Capital Transit has been recipient of 4 consecutive low and no emissions grants and has 1 Proterra bus on order. Should go into service in January or February 2021. AEA VW grant is helping with this purchase. Replacing 2006 diesel bus.

Capital Transit is planning replacement of remainder of fleet.

The bus barn doors are not manually operable. Capital Transit is in the process of sizing a new generator and is considering the power use to open the doors.

A new Valley Transit center is being built. Charging stations are being designed into it.

John Jantz

John as experience helping utilities write EV plans

Alec Mesdag

Former general manager of AEL&P had a 2011 Chevy Volt. Chevy Bolt

Electric Ford Transit Van will likely be the next vehicle.

Alec has helped out Capital Transit with previous grant applications and would be happy to talk with Capital Transit about the sizing of the new generator.

Many Juneau consumers have purchased Nissan Leafs. However, they do not have a Nissan dealer for service.

AEL&P still renting out the chargers, about 60-70 rented. Another 30-40 customers participating with their own chargers. About 350 EVs in town.

Brian Winnestaffer

Lots of heavy equipment from dump trucks and plows down to a fleet of smaller vehicles that are used for passenger transit.

April Woolery

Work for DOTPF Northern office as a planner. Learning a lot from others.

Taylor Asher

AEA does not have a fleet but is happy to support the conversation

Andrea T.

In Washington State there is a requirement to electrify fleets when it is cost-effective. Andrea is working on a fleet project with the Washington State University. She does have a list of data that is typically tracked and can send to Michelle.

Matt Bergen

Matt Bergen at Kotzebue Electric. Bought a used Nissan Leaf through a dealer in Seattle to try an EV in Kotzebue to determine performance in winter and cost savings. It has served as the utilities daily run around vehicle. They did have a low temperature cut-off at about -34 F. Hoping to expand fleet. They are looking at a Taiga snowmachine for inspecting wind turbine. Also keeping an eye on the Ford F150s.

Clay Koplin

Cordova Electric has not used grant funds, built

15,000 miles on EV in town, pretty much maintenance free except for new windshield wipers. Notably different than other fleet vehicles. CEC went low-tech on chargers, non-networked, but needed a water resistant unit. CEC will be purchasing a couple more used Nissan Leafs for additional fleet vehicle replacement. CEC will be testing V2G.

Kirk Warren

AEA has not set a date for release of the RFA or RFP yet.

There will be an AEA board meeting on Dec. 9th, EVs will be a topic of conversation for the board.

Group Chat

From denise_guizio to Everyone: 11:15 AM

How long has Tok had the electric school bus?

Is it operating in the expected range?

From Andrea T to Everyone: 11:16 AM

How many other ICE buses in the fleet, in town, and do you have telematics tacking the current buses for Mileage/ route gas use etc...

From denise_guizio to Everyone: 11:16 AM

What type of heater do you have on the bus?

From Jon Jantz to Everyone: 11:33 AM

Do you know the estimated energy consumption for the electric garbage truck in Watt hours per mile?

Miles per kWh works also .. or whatever other units they were provided

From Pierce Schwalb to Everyone: 11:40 AM

Hi Jon - the range we were given is 3.8 (driving) to 9

(ASL) kWh/mi

ASL = automated side loader

From Shaina Kilcoyne to Everyone: 11:50 AM

FYI, SWS has a hybrid 988 CAT Loader at the landfill which we use to load cover material. I just learned this yesterday! Not an EV but a cool start!

From Michelle Wilber to Everyone: 11:50 AM

sweet!

From Stretch to Everyone: 11:51 AM

Is anybody else on here a private business?

From Jon Jantz to Everyone: 11:52 AM

For Andrea regarding Battery Recycling: <https://www.batteryresourcers.com/>

From Andrea T to Everyone: 11:53 AM

Thank you Jon! I have not seen that one yet.

From clayk's iPhone to Everyone: 11:56 AM

unmute me please

From Andrea T to Everyone: 11:57 AM

From Zero motorcycle with Polaris too,
<https://www.forbes.com/sites/billroberson/2020/09/29/electric-snowmobiles-polaris-partners-with-zero-motorcycles-to-bring-ev-tech-to-their-many-toys/?sh=270becc73f8b>

From Alec Mesdag to Everyone: 11:58 AM

Fun update in Juneau: one of our first EV rate participants just passed 100k miles on their 2013 Leaf and only one bar down

From Michelle Wilber to Everyone: 11:59 AM

wow!

From Andrea T to Everyone: 12:01 PM

Thank you!

From Stretch to Everyone: 12:02 PM

Thank you

DRAFT