CONCEPTUAL FLEET ELECTRIFCATION PLAN SCOPE OF WORK OUTLINE

So you've been tasked with developing a fleet electrification plan. Where do you start? Mike Usen with DKS provided PRTPO with this helpful outline that breaks the work out into distinct and manageable tasks. Whether tackling this on your own or hiring someone to provide you a solid plan, this scope of work outline is useful for ensuring the work being done will provide you with what you need to make smart EV investments for your organization.

Task 1: Evaluate Existing Fleet for Vehicle Electrification

Determine which Internal Combustion Engine (ICE)-powered vehicles can be replaced by battery electric vehicles (EVs) and evaluate the anticipated electrical energy needs.

Subtasks:

a. Perform right-sizing analysis to determine optimum size of fleet considering multiple mobility options;
b. Identify current EVs to replace existing fleet ICE vehicles;
c. Evaluate fleet data to estimate theoretical maximum electrical demand (worst-case scenario) for EV charging per fleet domicile location.

Task 2: Evaluate Existing Facility Electrical Capacity

Evaluate existing feasibility of each fleet domicile location for charging infrastructure installation for charging in the near term:

Subtasks:

a. Review as-built drawings to determine potential constraints and data gaps;
b. Conduct field visits to inspect fleet facilities;
c. Interview Fleet and Facility staff for information on short-term needs and plans;
d. Review utility bills (12 months) and/or conduct data logging to determine actual electrical consumption at each facility;
e. Calculate available electrical capacity for each facility.

Task 3: Determine Future Facility Electrical Upgrade Needs

Evaluate the feasibility of capacity expansion and asset optimization for both chargers and vehicles in the mid and longer terms:

Subtasks:

a. Interview Fleet and Facility staff for information on long-term needs and plans;
b. Determine likely vehicle candidates for electrification and battery ranges and power consumption;
c. Prepare conceptual vehicle replacement timeframe;
d. Estimate anticipated electrical demand of future EV fleet;
e. Identify potential alternative medium and long-term charging strategies.

Task 4: Charging Station Options and Budget Estimates

Evaluate alternative charging strategies and technologies for different facilities.

Subtasks:

a. Select the most suitable alternative charging strategies such as dedicated level 1 and level 2 chargers, dedicated level 2 chargers with load management, shared level 2 chargers, shared DC Fast Chargers, mobile charging, etc. and quantify chargers needed;
b. Estimate costs for multiple EV charging project components (CAPEX and OPEX);
c. Determine the most optimum locations for installing charging stations;
d. Develop a phasing strategy or strategies for phased implementation of charging infrastructure.

Task 5: Prepare Report

Compile the work product from each subsequent task into a comprehensive report intended to guide charger deployment at City fleet facilities.

Subtasks:

a. Prepare draft report for review;
b. Conduct presentation of preliminary findings;
c. Finalize report based on feedback;
d. Conduct presentation of final report and recommendations to agency management.

If you have questions about how to approach development of a fleet electrification plan or need more information, please contact Mike Usen by email at mike.usen@dksassociates.com or by phone at 206.436.0557.