BEP - School Bus Vehicle to Grid

This document is for review only, to submit your response please use the submission form provided here.

1.1 Company Background

ComEd is a unit of Chicago-based Exelon Corporation (NASDAQ: EXC), a Fortune 250 energy company with approximately 10 million electricity and natural gas customers. ComEd powers the lives of more than four million customers across northern Illinois or 70 percent of the state's population.

1.2 RFI Background

ComEd is soliciting ideas from interested parties to inform the implementation of the eight BE pilots approved in the Final Order in ComEd's Beneficial Electrification Plan ("BE Plan") proceeding. These pilots aim to test new technologies in new communities and ComEd is using the request for information ("RFI") process to understand the benefits and risks associated with these technologies from a diverse set of viewpoints.

School districts across the country are adopting or considering adopting electric school buses (ESB) due to their environmental benefits and clean operation. School bus electrification is further supported by the Department of Energy's Renew America's Schools Grant, which recently awarded support to a grouping of districts across Illinois. Enabling the participation of large fleets of school buses on the grid through vehicle-to-grid technologies has the potential to bring new value to school districts, grid operators, and other grid customers. School bus fleets are suitable for planned Vehicle to Grid (V2G) integration due to their predictable operational schedules and limited duration of operation. The relatively large battery packs make it practical for ESBs to provide grid services through V2G technology over a long duration during peak events. Compensating grid value over time will help to offset the initial price premium of ESBs.

1.3 RFI Objectives

As part of the current BE Plan, ComEd is developing a portfolio of BE pilots to increase the positive impact of increased electrification, especially transportation electrification, that may help inform its next BE Plan. ComEd will continue to develop a forward-looking electrification strategy, and for these guided BE pilots, that begins with the information collected through RFI responses.

ComEd's intent for the School Bus Vehicle to Grid RFI is to better understand the extent to which school buses can provide grid services, including providing energy to the grid during peak conditions, as a storage capacity resource and estimating potential grid revenues available to electric school buses. Additionally, ComEd is seeking the following:

- A detailed understanding of all the standards, requirements, best practices, and test methodologies instrumental in a successful implementation and testing of V2G technologies with ESBs.
- Understanding the characteristics unique to ESBs with respect to other types of EVs. Specifically, time of use and availability characteristics and restrictions or limitations as an essential resource.
- Understanding of the software requirement(s) and the communication protocol that enables V2G implementation with ESBs.
- Understanding the potential to achieve flexible demand with ESBs to manage grid loading and optimally use the grid's capacity. In addition, understanding the potential to use ESB's energy storage capacity to maximize the utilization of distributed renewable generation.
- Understanding the economic feasibility of implementing V2G technology in school bus fleets, considering initial capital investments, potential operational cost savings, incentive schemes, and revenue generation from grid services.

Explore the potential to extend the lessons learned from this BE Pilot into the development of programs and incentive structures required to drive participation.

This RFI does not commit ComEd to award a contract, pay any costs incurred in the preparation of a response to this RFI, or procure or contract for services. ComEd reserves the right to accept or reject any or all proposals received as a result of this RFI, to negotiate with any qualified submitting entities, or to cancel this RFI in part or in its entirety.

ComEd may launch a Request for Proposals (RFP) in 2024-2025, with the pilot contract in 2024 – 2025. Details on timing release will be shared as a follow-up to the RFI. ComEd reserves the right to cancel or change the proposed RFP release dates and details.

2.1 RFI Schedule

This RFI will be launched on November 3, 2023. Responses will be accepted until December 1, 2023 at 5:00 p.m. CST. It is the sole responsibility of the responding firms to ensure their submission is received through Qualtrics on or before the due date and time.

2.2 Schedule of Events

RFI issued – November 3, 2023

Response to RFI deadline – 5 p.m. CST December 1, 2023

Submitting participants will be notified of next steps after ComEd has reviewed responses – No later than March 1, 2024

2.3 Documentation and point of contact

Participants should respond with the information listed in the questions below (and found in the submission form). For questions or concerns regarding this solicitation, please reach out to BEPilots@comed.com.

SUBMISSION QUESTIONS

1. Describe, in sufficient detail, what concept(s) could support and meet the objectives of this pilot and to enable the implementation of a scalable and successful pilot.
2. Please rank the following benefits that could be achieved by this pilot in order from most important to least important:
    a. Advances beneficial electrification
    b. Increases grid resilience, reliability, or power quality
    c. Economic benefits to customers
    d. Energy savings to customers
    e. Decreases in greenhouse gas emissions or local air pollution

   f. Addresses an existing equity gap, either with regard to technology access, program benefits, or community stakeholder inclusion

3. Are there any benefits not included in the list above that ComEd should consider? If so, how would you rank it in the list above?
4. Cite or provide links to any studies, references, or benchmarking data that support aspects of this pilot.
5. Provide a list of current manufacturers or suggested suppliers who produce products/technologies that can be used in this pilot. If known, please detail product readiness and any known deployments.
6. Identify or propose geographical regions where this pilot can best provide benefit and/or experience successful deployment.
7. Describe how this pilot can be designed to maximize customer benefits including energy savings, cost savings, and non-energy benefits.
8. Describe how this pilot can be designed to benefit income-eligible customers or Equity Investment Eligible Communities
9. Provide a list of any community groups or other relevant stakeholders that may be beneficial to engage in the development or implementation of this pilot.
10. Describe what considerations should be made for the overall potential grid impact of the pilot and how that can be measured.
11. Describe the potential operational and safety risks that should be considered and addressed in the development of this pilot. What technologies or measures can be put in place to mitigate these risks?
12. Please provide any additional information that could contribute to the successful implementation of this pilot.