LineVision comments re CERI program

Additional submitted attachment is included below.

Sep 8, 2022

LineVision Comments Re: California Energy Commission (CEC) Community Energy Resilience Investment (CERI) Program

<u>GENERAL COMMENTS:</u>

LineVision is pleased to provide comments to the California Energy Commission (CEC) regarding the scoping and development of the Community Energy Resilience Investment (CERI) program in response to the Infrastructure Investment and Jobs Act (IIJA) Section 40101(d), a formula grant program focused on preventing outages and enhancing the resilience of the electric grid. We appreciate the CEC's efforts to solicit stakeholder input on the critical topic of electric grid resilience in California.

LineVision is a Grid-Enhancing Technology (GET) company founded in 2018 that has developed an advanced non-contact sensor and analytics platform that continuously monitors the behavior of overhead transmission line conductors,[1] detecting anomalies and issuing real-time alerts on risks, while unlocking as much as 40% additional capacity on existing lines through dynamic line ratings (DLR). Currently, LineVision is working with many leading utilities in the United States including National Grid, Xcel, Dominion, Exelon companies, and the New York Power Authority.

Here in California, we are pleased to be working with the Sacramento Municipal Utility District (SMUD), which is using our LineAware and LineRate applications to help evaluate DLR to increase line capacity, reduce hydro curtailment, reduce power imports, and advance SMUD's Zero Carbon Plan.

LineVision believes the CERI program can provide eligible entities with the real time grid visibility that can reduce risks to the health and safety of communities throughout California. LineVision's patented LiDAR-based grid monitoring technology monitors the sag (vertical motion) and blowout (horizontal motion) of all conductor phases and provides alerts if safe operating limits are at risk of being violated, allowing utilities and operators to take proactive steps to prevent violations from occurring. This includes the ability to detect icing conditions on conductors as LineVision's algorithms can use data collected by field-based sensors along with weather information to identify conditions conducive to in-cloud icing (rime and glaze) and precipitation-based icing (freezing rain, wet snow, and dry snow) and produce alerts indicating where current conditions are conducive to ice formation and where ice buildup has been detected on a particular line(s). LineVision's monitoring systems are also able to monitor phase to phase distance and alert if conductors are at risk of line slap, which caused the 2017 Cascade Fire in California.[2]

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[1] Applications are also possible on lower voltage distribution networks.
[2] https://www.fire.ca.gov/media/5131/cascade-fire-cause-release.pdf.

As the CEC examines the eligible uses for resilience investments in the CERI program, LineVision believes that the deployment of technologies that allow for more sophisticated capabilities such as the real-time monitoring and control of system assets is critically important. Such capabilities can support CERI's objectives to strengthen grid resilience and reliability as well as advance California's goal of achieving 100 percent clean energy while ensuring that California ratepayers see the lowest rate-impact possible from this transition. This includes implementing technology solutions that help ensure existing infrastructure is being utilized at its maximum capacity so that we can put more clean electricity on existing assets.

In addition to their resilience benefits, sensor-based monitoring technologies like LineVision's can also be utilized for inputs to enable advanced transmission line ratings, like Dynamic Line Ratings (DLR), which have demonstrated an ability to create low-cost additional grid capacity[3] and are currently being examined by the Federal Energy Regulatory Commission (FERC) as a means to promote grid efficiency.[4]

Enhancing grid resilience by extending visibility and control throughout the grid while also increasing system capacity will also assist system operators in California with managing the grid at a granularity required for intermittent loads created by electric vehicle (EV) charging. Most electric utilities today, including those in California, which recently ruled to ban the sale of new gas-powered cars by 2035, would benefit from extended real-time situational awareness to both support increased EV charging infrastructure and maintain customer reliability and power quality.[5] LineVision believes that these situational awareness investments, including DLR technology, will be necessary to accommodate the increasing integration of EV's in California, which has the greatest number of EV's nationwide (approximately 39%).[6]

Finally, LineVision's equipment is installed by utility field crews with on-site supervision from LineVision. LineVision adheres to and supports strong utility labor standards and protections, while also noting the job creation associated with each sensor's deployment on the grid – for each 100 systems LineVision deploys, the company creates and/or retains between 375-610 jobs.

TECHNOLOGY OVERVIEW:

LineVision's non-contact sensor-based platform is able to provide solutions to a number of challenges that utilities and grid operators are facing, including the need for increased capacity to accommodate increased electrification, how to identify and prioritize

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[3] https://www.utilitydive.com/news/duquesne-light-expands-linevision-partnership-after-dynamic-ratings-boost-t/631112/
[4] https://www.ferc.gov/news-events/news/ferc-opens-inquiry-use-dynamic-line-ratings-promote-grid-efficiency
[5] https://gridwise.org/wp-content/uploads/2022/02/GWA_22_NearTermGridInvestmentsEVChargingInfra_Final.pdf
[6] https://afdc.energy.gov/data/10962

LineVision Inc.
444 Somerville Ave
Somerville, MA 02143 USA

maintenance on aging assets, and how to integrate an increasing amount of renewable generation onto the grid. A resilient grid requires that all such challenges be addressed as soon as possible, as the increasing risk from the threats the grid is facing only further exacerbates these challenges.

LineVision's solutions come from three applications that all tie to the company's non-contact equipment, which has no limitations on the line voltage, conductor size, type, or bundle configurations.

The three solutions are: LineAware, LineRate, and LineHealth:

- LineAware provides utility and grid operators with situational awareness, which helps to inform operators with clearances and horizontal motion data, triggering alerts on exceedances, a source of wildfire ignition
- LineRate provides Dynamic Line Ratings (DLR), which increase the capacity on lines with Forecasted and Real-Time DLR as well as Ambient Adjusted Ratings (AAR)
- LineHealth provides planners and risk management teams with Asset Health Monitoring, which improves maintenance strategies by creating a digital twin to determine conductor health

CONCLUSION:

LineVision stands ready to be a resource regarding the funding made available for this area from the Infrastructure Investment and Jobs Act (IIJA) in California. We believe that GETs such as LineVision's would provide eligible entities in California with the tools to make speedy, safe, and efficient decisions that enhance grid resilience. Thank you for consideration of this request.

Sincerely,

Hilary Pearson
Senior Director, Governmental & Regulatory Affairs
LineVision
hpearson@linevisioninc.com

LineVision Inc.
444 Somerville Ave
Somerville, MA 02143 USA