



SEPTA-VIRIDITY ENERGY PILOT PROJECT FOR OPTIMIZATION AND INCORPORATION OF WAYSIDE ENERGY STORAGE DEVICE

FREQUENTLY ASKED QUESTIONS

When did SEPTA and Viridity start this pilot project?

SEPTA and Viridity signed a Memorandum of Understanding (MOU) to submit a grant application to the Pennsylvania Energy Development Authority (PEDA) in June 2010. Final notice of the award, in the amount of \$900,000 to Viridity, came in August 2010. The availability of resources, through PEDA as well as through the Federal Transit Administration's "Transit Investments for Greenhouse Gas and Energy Reduction" (TIGGER) program, served as the immediate impetus to move forward with project plans.

With today's economic climate, including SEPTA's own major capital budget cuts this year, why should taxpayer money go toward any project that is not absolutely essential to SEPTA's day-to-day operations?

SEPTA expects this project to play a significant role in its overall effort to enhance energy efficiency and keep electrical costs as low as possible – and that benefits taxpayers and customers. In recent years, under its Sustainability Program, SEPTA has taken a number of steps to make its vehicles, electrified rail system, facilities and offices more energy efficient. This pilot project is in keeping with the goals set out in the Sustainability Program, and is helping SEPTA keep costs to taxpayers and customers as low as possible, while also making improvements to an aging transit system that are vital to keeping it moving for generations to come.

Funding aside, SEPTA will have to devote a significant amount of attention to this pilot project – and it's one that has not been used extensively by transit agencies in the United States. What have you done to make sure the effort put into this pays off in the form of a successful pilot project?

SEPTA has been analyzing the evolution of energy storage technologies for several years, and believes it can help meet the needs of a large, urbanized and aging transit system like ours. The system is based on regenerated braking power, which is widely utilized by electrified transit systems around the world. However, only recently have agencies begun to pilot the use of wayside energy storage devices – and none, to our knowledge, have done so in partnership with a smart grid firm with Viridity's capabilities to optimize its use. The presence of a locally based smart-grid start-up like Viridity Energy provided a unique opportunity to leverage the project to generate additional financial benefits, and support the Greater Philadelphia's emerging position as a hub for advanced energy technology.

When do you expect installation of the wayside storage device as part of the SEPTA-Viridity pilot project?

Installation is tentatively scheduled for late 2011 or early 2012, following procurement of the wayside storage device and all necessary engineering, design and testing work.



Where is the device going to be placed?

The device will be installed at SEPTA's Letterly Substation, which is located in Philadelphia's Kensington neighborhood. This facility's main function is to supply power to the Market-Frankford Line, which is SEPTA's busiest rail line.

That substation is in the middle of a densely populated residential and business area. Is this going to create an eyesore for the people in that community?

The wayside storage device will be installed inside the Letterly Substation, and will not be in public view or in any way have a negative impact on the aesthetics of this historic area. The Letterly Substation, in fact, has been a part of the community in Kensington for nearly a century. The building's original brick façade is well-maintained, and allows the facility to blend in seamlessly with nearby rowhouses and businesses. A mural on the wall facing the parking lot has also helped with neighborhood beautification efforts.

SEPTA has about three dozen substations similar Letterly.

Will the project be expanded to other facilities in the future – and if so, how will it be paid for?

SEPTA plans to pursue similar projects in the future as funding allows. The Authority is continuing to aggressively pursue all available funding resources, such as a recent \$2.7 million grant application to the FTA under the TIGGER grant program. Also, moving forward, SEPTA expects to find opportunities to save money on the start-up costs for these types of programs. For example, currently, wayside energy devices cost approximately \$1 million. However, SEPTA anticipates that the unit cost would be substantially reduced if the devices were ordered in bulk. Additional technological advancements in the coming years also likely will reduce unit costs.

Wayside Energy Storage Project – Frequently Asked Questions
October 2010

Why are you working with Viridity Energy to implement this pilot?

Viridity Energy, which is headquartered in Conshohocken, Pa., is uniquely qualified to work with SEPTA on this pilot project. The company's software platform solution enables customers to dynamically shift and balance energy load, integrate advanced energy technologies and convert existing energy investments into new energy savings opportunities, an essential component of SEPTA's pilot project.

What kind of reactions has the announcement of the pilot project received so far from passengers, city officials, and others?

The most common responses have been excitement and intrigue. Because of the newness of wayside energy storage technologies, many transit and energy industry officials and experts have expressed an eagerness to learn more about the project and closely follow its outcomes. Elected officials have endorsed the project as an example of SEPTA's innovative approach to reducing operating costs and leveraging alternative sources of revenue. City and regional leaders are particularly interested in the project's potential to serve as an additional boost to the region's emerging position as a hub for advanced energy technology, for which SEPTA is receiving increasing recognition as a multifaceted – but underutilized – asset.

This pilot project is another move forward for SEPTA's overall Sustainability Program. All of these efforts are being detailed online on SEPTA's new Sustainability Web site, www.septa.org/sustain. You can also get to the site by visiting www.septa.org – just click the "Sustainability" tab on the right-hand side the homepage.