IEEE Vehicular Technology Society
Philadelphia Chapter

February 25, 2022 Meeting Announcement

Topic: Traction Power Wayside Energy Storage Technology Feasibility Analysis: A Broad Review

Sponsor: IEEE Vehicular Technology Society (VTS) Philadelphia Chapter

Speaker: Mr. Benjamin (Ralph) Stell, P.E., Associate and Senior Engineer, STV Incorporated

Meeting date/time: Friday, February 25, 2022, 12 pm to 1 pm (Eastern Standard Time)

Location: *Virtual meeting* link will be posted on vTools and emailed to registered guests before the meeting.

Cost of meeting: There is no charge for meeting attendance.

Reservations: ***Attendees are required to register at*** https://events.vtools.ieee.org/m/303841

A valid email address must be provided in order to receive the link for the meeting. If you have any questions, please contact Brandon Swartley at brandon.swartley@ieee.org.

Professional Development Hours: Attendees may apply for 1.0 PDH upon completion of lecture. Certificates will be provided through the IEEE Certificates Program, accepted in all states. PDHs are provided at a cost of $5.00 per certificate. Send payment to Brandon Swartley via Zelle at brandon.swartley@ieee.org. Evaluation forms must be completed online to obtain PDH certificates at https://r2.ieee.org/philadelphia-vts/forms/

Abstract: The project economics of Wayside Energy Storage Systems (WESS) intended for energy conservation purposes only are heavily dependent on current and future electric rates. This is most likely the primary reason why there have been so few WESS implementations dedicated to energy conservation in the USA to date. And, with the exception of supercapacitor-based WESS, most of these implementations have been experimental pilot-type projects. Several pilot type WESS projects have been successful, but the application of these systems solely for energy and demand savings has been limited in the USA primarily due to unacceptably long paybacks due to high capital cost coupled with low electric rates. Mr. Stell will discuss available wayside energy technologies that offer promise for pilot-type projects. This presentation provides an overview of wayside energy storage and recovery technologies such as supercapacitors, storage batteries, flywheels, and reversible substations that can be used on traction power systems.

Speaker: Benjamin (Ralph) Stell, PE, has 37 years of experience in the planning, design, and construction of railway electrical systems throughout the United States. His extensive systems planning experience has been complemented by numerous electrified railway design projects performed for Amtrak and diverse rail transportation authorities. Projects include the design of indoor and outdoor traction power substations and power distribution for AC electrified passenger and commuter rail, and DC powered heavy and light rail, electric trolleybus, and automated people mover (APM) systems. Stell is active in IEEE and AREMA electric traction technical committee work, developing standards and guide documents for traction power system equipment design and operation. He currently is an Associate, Senior Engineer, Traction Power with STV Incorporated in Lawrenceville, NJ.

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