**The REC Committees Moving Forward with Their Agenda**

The Rail Electrification Council (REC or Council) formed three important committees in 2021. The Wayside, Power Sources, and Motive Power Committees will each address fundamental areas of rail electrification.

## Wayside Committee

The Committee focuses on trackside infrastructure physically located at or near grade crossings, in a rail yard, and deployed on other parts of the rail line. Wayside equipment includes transformers, switchgear, rectifiers, high voltage insulators, surge arrestors, energy storage systems, and charging stations. Railyards and waysides can accommodate renewable technologies such as solar panels, wind turbines, and communications (cellular or fibre) technologies. The Committee will primarily address technology issues associated with electrification.

### Recent Activities

The Committee has conducted an initial research study on existing wayside infrastructure installations in North America. A common theme among these transit/commuter rail installations was using wayside energy storage systems to recover the regenerative energy from train braking systems which are then repurposed back to accelerate trains along the line. Factors are enabling/inhibiting the change to electrified wayside infrastructure in these cases. The Committee determined that there could be a category of issues driving electrified wayside infrastructure for a particular rail operation (e.g., transit, Class I freight, and short lines) and agreed to conduct further research into what those issues are and how they could be more broadly promoted.

## Power Sources Committee

The Committee focuses on how existing railroad rights-of-way can be employed to build out the electric transmission grid, especially interregional transmission, and facilitate access to renewable energy generation and other new technologies.The silos in which the electricity and railroad networks generally operate tend to inhibit the electrification of this key transportation industry. Consistent with railroad safety and operational challenges, railroad companies should be encouraged to utilize their rights-of-way to advance the public's interest in a strong, robust electric grid. The Committee anticipates that railroads may find it profitable to advance their electrification agenda.

**Recent Activities**

In light of the recent infrastructure legislation and policy debates about integration of the electric grid, this Committee may have a policy role greater than other committees. As the U.S. DOT Federal Highway Administration recently offered guidance to state DOTs on leveraging highway rights-of-way for co-location of electric power facilities, the Committee likewise asked the US DOT Secretary and the FRA Administrator to encourage railroad companies to allow co-location of electric power alongside railroad rights-of-way. The letter cites three precedents for this request: the alternative uses of highway rights-of-way guidance document, the 2020 rail plan published by the Nevada DOT, and a FERC report to Congress on "the barriers and opportunities for high voltage transmission, including over the nation's transportation corridors." REC has requested a meeting to discuss this opportunity further. The Committee has also been instrumental in providing intervention comments to the SOO Green HDVC link complaint at FERC. Looking forward, the Committee is monitoring and preparing to comment on any infrastructure legislation, following FERC particularly related to rulemakings for transmission incentives, and monitoring the merger between Kansas City Southern and the Canadian Class I railroads.

## Motive Power Committee

The Committee focuses on locomotive motive power and the adoption of electricity as the principal motive of domestic (freight and/or passengers) transportation. This necessarily involves goals that are much longer-term and dependent on emergent technologies, such as diesel-electric, hybrid battery fossil fuel, hybrid battery/hydrogen fuel cell, hydrogen fuel cells, green energy, full battery, and fully electric, as well as related cable and catenary facilities. The Committee is studying the potential payback period or ROI on the initial investment, which is at the core of resistance to converting motive power to electricity. Therefore, it becomes important to focus on how this conversion can help railroads improve operations, reduce their operating costs, particularly fuel costs, reduce their overall carbon footprint, and meet Environmental, Social, and Governance (ESG) targets.

**Recent Activities**

The Committee is considering the use cases for each type of motive power technology. For example, a battery-powered train is better suited in hilly or mountainous regions where regenerative braking can provide power back to the locomotive; that is not necessarily the best option crossing the flatlands of the Great Plains. Battery electric locomotives can work in tandem with diesel-electric locomotives, shorter zones or sections of the track could be electrified, and electrification can occur in regional areas such as those that are densely populated or in areas that have workers who live in the same space as the trains operate. Finally, it's crucial to capitalize on existing policies and programs in this space. The Committee considers all these factors as it works to put together a roadmap outline for this transformation. In sum, the Committee regards motive power as a major strategic planning issue for North American railways over the coming decades.

Participation in the REC is open to any interested organization. If you are interested in joining, contact NEMA Industry Director Steve Griffith at steve.griffith@nema.org.