



Enhancing the Grid Through Dynamic Line Ratings

Transmission lines can carry large amounts of electric energy from one point to another in an electric power system. They can carry alternating current or direct current or a system can be a combination of both. Transmission lines generally consist of heavy cables strung between tall towers. These systems are exposed to the sometimes harsh environment of natural weather events – including extreme heat. In addition, the movement of energy itself through power lines produces heat which increases resistance and causes line losses.

Transmission line power flow capacity can be limited based on the temperatures that the conductors (wires) experience throughout the day. Not only can conductors expand at higher temperatures, lengthening the line and reducing the distance to the ground and other objects, but the carrying capacity of transmission lines decrease as ambient air temperatures rise. To prevent premature failures and limit conductor sag, system operators use static line ratings (SLRs) to maintain safe operating conditions. SLRs are calculated using conservative assumptions about the transmission line operating environment such as average temperatures, wind speeds, sun exposure, etc. SLRs can create an inflexible constraint that does not take advantage of changing or favorable environmental conditions that allow for greater transmission utilization.

One way to improve the performance and periodically increase the carrying capacity of transmission lines is through the adoption of a dynamic line rating (DLR) system. DLR technology uses a real-time monitoring system to constantly calculate the varying line rating of a transmission line due to the changes in weather conditions. Where SLRs can lead to underutilization of transmission lines, a DLR system can provide 10-25% additional line capacity. DLR can relive system congestion at times of peak demand, reduce the need for line upgrades or new construction, and can improve reliability by protecting certain transmission equipment. Each of these attributes results in net benefits for consumers through stable to lower energy prices.

DLR deployment is not without barriers. Installed DLR system costs can be expensive, but the increase in transmission capacity can justify the up front costs. More research may be needed to better understand the economic impacts of DLR adoption at the regional and national level. And other interoperability aspects of DLR integration must also be addressed. However, the diverse and expanding needs and obligations of today's transmission operators require flexible operational parameters that enhance system performance and resilience.





FERC Approves Extreme Cold Weather Reliability Standards

Last week, the Federal Energy Regulatory Commission (FERC) approved two new North American Electric Reliability Corporation (NERC) reliability standards that were developed in response to utility energy system disruptions resulting from the February 2021 Winter Storm Uri. The standards require generators to retrofit existing units to prevent freezing during extreme coldweather events. Generators will also need trained staff on cold-weather preparedness to improve the coordination of load-reduction measures during emergencies. More proposed standards are expected by the end of the year. (Is it just me, or are you also amazed that it takes official action from FERC and NERC to ensure that some of our nation's generation facility owners weatherize critical energy system components???)

The reliability standards, proposed in October 2022, contain new and revised requirements to advance reliability of the grid during extreme cold weather temperatures. They include implementation of generator freeze protection measures, enhanced cold weather preparedness plans, identification of freeze-sensitive equipment in generators, corrective actions for when equipment freeze issues occur, annual training for generator maintenance and operations personnel, and procedures to improve the coordination of load reduction measures during a grid emergency.

FERC also identified areas for improvement and directed NERC to modify the extreme cold weather preparedness and operations reliability standard to address concerns related to applicability, ambiguity, a lack of objective measures and deadlines, and prolonged, indefinite compliance periods. Along with the directives for modifications, FERC directed NERC to collect and assess data over time to monitor and assess entities' implementation of the new requirements. See the Order.

Can Geothermal Energy Significantly Contribute to the Nation's Energy Needs?

Geothermal energy currently generates about 3.7 gigawatts of electricity in the United States, but a <u>new analysis</u> shows it could provide 90 gigawatts of firm, flexible power to the U.S. grid by 2050, as well as heating and cooling solutions nationwide. This substantial geothermal energy potential is, however, largely inaccessible with conventional geothermal technologies. The use of geothermal energy for electricity requires three elements: heat, fluid, and a permeable section of the Earth's crust. While heat exists everywhere underground, many locations lack adequate water and/or permeability. Enhanced Geothermal Systems (EGS) employ human-made underground reservoirs to enable the fluid flow necessary to draw geothermal energy to the surface, where it can be captured to power homes across the country.

To expand the opportunities for geothermal energy in the nation, the U.S. Department of Energy (DOE) <u>announced</u> a funding opportunity of up to \$74 million for up to seven pilot projects that will test the efficacy and scalability of EGS. The pilot projects will use innovative technology and a variety of development techniques to capture the Earth's abundant heat resources in diverse geologic settings. Through this investment, DOE hopes the research and development from the findings will demonstrate the growth and ultimate potential for geothermal energy to provide reliable, around-the-clock electricity to tens of millions of homes across the country. This is DOE's first funding opportunity for geothermal energy and seeks to cut the cost of geothermal energy 90% by 2035.



Natural Gas Facts and Figures

Nearly 187 million Americans and 5.8 million businesses use natural gas every day. With that level of market penetration, the natural gas industry must always work to provide safe, affordable and reliable fuel for the country. The American Gas Association has compiled the latest natural gas stats on affordability, reliability, safety, environment and innovation in its <u>AGA 2023 Playbook</u>.

National Electric Vehicle Infrastructure (NEVI) Rule Finalized

The Infrastructure Investment and Jobs Act (signed on Nov. 15, 2021) intends to put the U.S. on a path to a nationwide network of 500,000 electric vehicle (EV) chargers by 2030. The IIJA established the \$5 billion National Electric Vehicle Infrastructure (NEVI) Formula Program to provide dedicated funding to States to strategically deploy EV charging infrastructure and establish an interconnected network.

Last week, the federal Joint Office of Energy and Transportation announced the introduction of <u>the EV Charging Minimum Standards Rule</u>, which applies to all NEVI-funded charging stations. In addition, other electric transportation-related announcements were made, including the <u>Build America, Buy America Implementation Plan</u> for EV charging equipment.

The EV Charging Minimum Standards Rule will help to ensure that chargers operated by different networks will operate similarly and provide the traveling public with a predictable EV charging experience—no matter what car you drive or where you charge. For instance, Tesla will open a portion of its U.S. Supercharger and Destination Charger Network to other EVs, making at least 7,500 chargers available to all EVs by the end of 2024. The standards will also require that chargers have consistent plug types and charging speeds, common payment systems, and accessible pricing information, locations, and availability.

The Build America, Buy America Implementation Plan incentivizes companies to invest in domestic production of EV charging components, while providing a transition period for companies to onshore their supply chains. In addition, cities, towns, tribes, and states will soon be able to apply for competitive grants to build EV charging stations in communities across the country. The <u>first round of funding</u> will open soon and make \$700 million from fiscal years 2022 and 2023 available through a new Charging and Fueling Infrastructure (CFI) Discretionary Grant program.

Legislation Tracker

The mid-point of the 2023 Regular Legislative session has passed and the next deadline to watch is the floor action deadline for passage of Appropriation, Tax, Bonds, or other Funding/Revenue Bills is today, February 22, 2023. The Commission is watching numerous bills that could impact customers, certain utilities or the MPSC. This week we update their status.

House

<u>HB 264</u>: Energy Efficiency standards on buildings; extend repealer on statute requiring certain buildings to meet. Referred to Senate Energy

<u>HB 288</u>: Public Utilities Staff; authorize certain personnel to be filled by consulting contract. Referred to Senate Energy

HB 698: Municipal water, wastewater and sewer services; require equity-based billing based on use of. Referred to Senate Energy

HB 809: Executive Director of Public Utilities Staff; remove Public Service Commission from the process of appointing. Referred To Senate Accountability, Efficiency, Transparency



Continued...

<u>HB 986</u>: "Mississippi Electric Vehicle Charging Infrastructure Act of 2023"; enact to authorize MTC to enter into public-private partnerships. Referred To Senate Highways and Transportation; Accountability, Efficiency, Transparency

HB 1060: Electric vehicles; authorize charging by non-utilities. Referred To Senate Energy

<u>HB 1061</u>: Electric transmission infrastructure; prescribe requirements for issuance of certificate of public convenience and necessity. Referred To Senate Energy

HB 1067: Mississippi Broadband Accessibility Act; create. Referred To Senate Finance

<u>HB 1108</u>: Rural water associations; authorize those providing sewer services to participate in the ARPA Rural Water Association Infrastructure Grant Program. Referred To Senate Accountability, Efficiency, Transparency

HB 1213: Water Infrastructure Grant Program; DEQ shall give priority to applicants not receiving sufficient funding in first round grants. Referred To Senate Accountability, Efficiency, Transparency HB 1225: Telephone solicitation; bring forward provisions of law relating to. Referred To Senate Energy

Senate

SB 2102: Impending emergency excavation; define, establish advance notice requirements and require premarking for. Referred to House Public Utilities

SB 2338: Municipal waterworks; ensure just, reasonable and transparent billing in. Referred to House Public Utilities

<u>SB 2339</u>: Provision of law establishing energy efficiency standards for building construction; extend repealer on. Referred To House Energy

<u>SB 2341</u>: Electric transmission infrastructure; maintain state jurisdiction over integrity of. Referred To House Public Utilities

SB 2433: Regulation of public utilities; exempt distribution of water by eligible homeowners' association to its own residents from. Referred To House Public Utilities

<u>SB 2492</u>: Electric vehicle charging; allow by non-utilities while maintaining consumer protections. Referred to House Public Utilities.

<u>SB 2494</u>: Mississippi Telephone Solicitation Act; transfer enforcement authority to Attorney General's Office. Referred To House Public Utilities

<u>SB 2512</u>: Counties; authorize to designate ARPA funds to rural water and sewer associations for infrastructure projects. Referred To House Public Utilities

<u>SB 2562</u>: Transportation; allow public and private partnerships to establish electric vehicle charging stations. Referred To House Transportation

<u>SB 2698</u>: Ad valorem tax; extend fee-in-lieu qualifying period for renewable energy project. Referred to House Ways and Means.

Appropriation, Tax, Bonds or other Funding/Revenue Bills (Deadline for action is Feb. 22)

HB 303: Electric vehicle tax; exempt low speed electric vehicles. Referred to Ways and Means

HB 331: Helping Mississippians Afford Broadband Act; create. Referred to Appropriations

<u>HB 335</u>: income tax; allow credit for investments in qualified clean-burning motor vehicle fuel property. Referred to Ways and Means

<u>HB 378</u>: Electric/hybrid vehicles; repeal sections of law authorizing taxes. Referred to Ways and Means

HB 871: Ad valorem tax; extend time for partial exemption and fee-in-lieu of ad valorem tax agreement for certain renewable energy projects. Passed the House

<u>HB 1254</u>: Bonds; authorize issuance to assist City of Jackson with making repairs and improvements to water and sewer systems. Referred to Ways and Means

<u>HB 1353</u>: Bonds; authorize issuance for construction of a separate water system for Jackson State University. Referred to Ways and Means



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HB 1453: Appropriation; DFA for distribution to counties and municipalities for water/sewer infrastructure projects authorized under ARPA. Referred to Appropriations SB 2020: Electric/hybrid vehicle tax; repeal sections of law authorizing. Referred to Finance SB 2909: General Fund; FY2024 City of Jackson Water Reimbursement Grant Program. Referred to Appropriations

Please note that identification of a bill in this newsletter does not indicate support or opposition to a measure. Each bill is simply identified as an example of legislation that has been assigned to Energy, Public Utilities or other committees with oversight of these matters. Bills being tracked could change from week to week.

Last Week at the MPSC

- The Commission issued Orders Granting the Intervention of **Bigger Pie Forum** in the <u>Greer Solar, LLC</u> and the <u>Wildwood Solar, LLC</u> Petitions for a Certificate Of Public Convenience and Necessity Authorizing the Construction and Operation of a Solar Electric Generating and Storage Facility in **Washington County**.
- Big River Telephone Company filed its <u>Voluntary Surrender</u> of Certificate of Public Convenience and Necessity and Withdrawal of Tariffs to provide competitive resold and facilities-based local exchange telecommunication services.









I started the week off in **Bulldog-land for the 2023** MSAPPA meeting of facility managers for many of the state's schools, colleges, universities, industrial, agencies and more. **During Tuesday** morning's sessions, I shared the specifics of the Commission's Solar for Schools program and other matter's pertinent to this audience. A highlight of the morning was the keynote address by MSU Head Football Coach Zach Arnett (pictured right)! I look forward to great things at MSU under his leadership!



February 21-22, 2023 • Starkville, Mississippi

Mississippi Chapter of





Last week, our Consumer Complaint Specialists handled a total of 19 complaints in the Central District.

Electric Companies 14
Telecommunications 3
Natural Gas 1
Water/Sewer 1

Last week, the Central District received a total of 152 complaints from consumers against potential telemarketers through our no call app, website and mail-ins.

We encourage consumers to file telemarketing complaints with the Federal Trade Commission at http://www.donotcall.gov/ in addition to filing complaints with the Mississippi Public Service Commission.