

# Report of the Senate Select Committee on Wind Turbine Lighting

**CHAIRPERSON:** Senator Elaine Bowers

**VICE-CHAIRPERSON:** Senator Mike Thompson

**RANKING MINORITY MEMBER:** Senator Marci Francisco

**OTHER MEMBERS:** Senators Ethan Corson, John Doll, Michael Fagg, Rick Kloos, Mike Petersen, Pat Pettey, Ronald Ryckman, and Mark Steffen

## **STUDY TOPIC**

The Senate Select Committee will evaluate various policy options and make recommendations to the 2023 Legislature regarding wind turbine lighting.

January 2023

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# Senate Select Committee on Wind Turbine Lighting

## REPORT

### Conclusions and Recommendations

The Committee recommends the 2023 Legislature explore potential federal funding for the implementation of light mitigation technologies in Kansas and introduce two separate bills to address wind turbine light mitigation: one for retrofitting existing wind turbines with light mitigation technology and another for equipping turbines constructed in the future with such technology.

*Proposed Legislation:* None.

### BACKGROUND

The Legislative Coordinating Council approved a one-day meeting of the Senate Select Committee on Wind Turbine Lighting (Committee) during the 2022 Interim to evaluate various policy options and make recommendations to the 2023 Legislature regarding wind turbine lighting.

### COMMITTEE ACTIVITIES

The Committee met on October 27, 2022.

#### History of the Kansas Electric Transmission Authority and Incentives for Wind Development in Kansas

Two analysts from the Kansas Legislative Research Department provided an overview of the history of the Kansas Electric Transmission Authority, including its creation, goals, accomplishments, and dissolution, and a working summary of wind energy tax incentives categorized by exemption status and other criteria.

#### Role of the Southwest Power Pool and the Kansas Corporation Commission in Wind Energy Projects

The Director of System Planning for the Southwest Power Pool (SPP) provided information regarding the evolving transmission grid and transmission planning for the future. The Director provided and explained a geographic view of SPP as a regional transmission organization, the miles of extra-high voltage transmission, SPP's annual savings and benefits, and SPP's services and generation queue.

The Director of the Utilities Division of the Kansas Corporation Commission (KCC) provided information regarding the process for obtaining a public utility designation for developers of renewable generation facilities and the elements of a KCC review.

#### Federal Funding for Renewable Energy Projects

Representatives from Kansas Municipal Utilities and the U.S. Department of Energy provided information about potential federal funding for renewable energy projects through sources such as federal Infrastructure Investment and Jobs Act (IIJA) [also known as the Bipartisan Infrastructure Law] appropriations and agreed to

work with legislative staff to identify potential funding for light mitigation technology. Further information was provided regarding the Kansas Infrastructure Hub, the grant application process, and maximizing funding for Kansas, as well as IJA funding for areas including clean energy and power resilience, legacy pollution cleanup, and electric vehicle charging.

### **Overview of Light Mitigating Technology and Federal Aviation Administration Standards**

A representative from the American Clean Power Association presented information about Federal Aviation Administration (FAA) requirements for wind turbine lighting, FAA-approved light mitigating technology, aircraft detection lighting systems (ADLS), and the vendors who are approved to sell that technology.

Additional information was provided on the lights approved by the FAA and the general time frame for FAA approval of an ADLS system.

### **Recent Legislation on Wind Turbine Lighting**

An Associate Director for Energy for the National Conference of State Legislatures provided an overview of legislation in other states regarding wind turbine lighting and actions being taken to provide appropriate safety measures for aircraft while reducing the impact of wind turbine lighting on persons living in the area.

An Assistant Revisor of Statutes from the Office of the Revisor of Statutes provided an overview of Kansas legislation regarding wind turbine lighting that was introduced during the 2022 Legislative Session.

A Commissioner with the North Dakota Public Service Commission provided an overview of wind farm projects in North Dakota and the recent rules adopted and law enacted in North Dakota to mitigate wind turbine lighting. The Commissioner also provided information about Lighting Intensity Dimming Solution (LIDS) as a light mitigating technology not yet approved by the FAA.

A state senator from Colorado provided an overview of the Colorado law enacted in 2022 requiring future wind turbines to be equipped with light mitigating technology.

### **Role of Local Government in Planning and Siting of Wind Projects**

The Deputy Director and General Counsel of the Kansas Association of Counties discussed the role of local government in wind turbine project siting, explained zoned and unzoned counties in Kansas, and described the potential process for wind development for two different types of zoned counties.

### **Military and Flight Considerations**

The Executive Director of the Military Aviation and Installation Assurance Siting Clearinghouse, Office of the Assistant Secretary of Defense (Energy, Installations, and Environment), U.S. Department of Defense, provided an overview of military coordination and readiness involving wind turbine projects.

The Director of Aviation for the Kansas Department of Transportation discussed the importance of the aviation industry in Kansas and provided a pilot's perspective on wind turbine lighting.

### **Aircraft Detection Lighting Systems**

Representatives from two companies approved by the FAA to sell ADLS technology, DeTect and Terma, provided an overview of ADLS, including potential costs to wind developers, technical issues and related mitigation, and FAA compliance.

### **Industry Experience with Light Mitigation Technology**

A representative from the Kansas Power Alliance provided background on the Advanced Power Alliance, described the difference between ADLS and light mitigating technology, provided an overview of the FAA interaction process, described the repower process, and described the issues associated with retrofitting existing towers.

## CONCLUSIONS AND RECOMMENDATIONS

After discussion, the Committee recommended the 2023 Legislature explore potential federal funding for the implementation of light mitigation technologies in Kansas and introduce two separate bills to address wind turbine light mitigation: one for retrofitting existing wind turbines with technology and another for equipping turbines constructed in the future.