

Unmanned Aircraft System (“Drone”) Use In Public Power Utility Operations

Summary

Unmanned aircraft systems (UAS or drones) can be very useful to public power utilities in assessing storm damage, surveying distribution and transmission equipment, and supporting construction and repair. Federal Aviation Administration (FAA) rules allow drone use in some circumstances, but these rules generally preclude operations beyond visual line-of-sight, over long distances, or at night—circumstances in which drones are particularly helpful. The American Public Power Association (APPA or Association) believes that Congress and the FAA should take greater steps to facilitate drone use in utility operations to improve the efficiency, effectiveness, and safety of utility operations.

Background

Drones are a particularly cost-effective and safe way for electric utilities to assess storm damage, survey distribution and transmission equipment, and support construction and repair. They have the potential to replace costly conventional inspection techniques with streamlined, automated inspection processes that may be more precise and less cumbersome than existing technology. Some public power utilities already deploy drones in routine surveys of electric power equipment and support of construction and repair, and others are investigating how to use them. However, FAA regulations have not kept pace with this evolving technology and, in many cases, do not enable utility users to unleash the potential that drones offer to improve the efficiency and effectiveness of infrastructure inspection and for disaster recovery efforts. In fact, until 2016, the law did not explicitly provide for the integration of commercial drone operation into the national airspace.

Congressional and Regulatory Action

As required in the FAA Modernization and Reform Act of 2012, the FAA released final rules on June 21, 2016, for commercial operation of small UAS. These rules, referred to collectively

as “Part 107,” made it easier for businesses, nonprofits, and government agencies to use drones for a variety of purposes. However, these rules do not allow users to operate beyond visual line-of-sight, at night, or over people, nor do they establish clear guidance for operating during emergencies. They also do not clearly set forth a process to allow the owners of critical infrastructure to deem airspace over that infrastructure a “no-fly” zone for drone operations by private citizens. Several public power utilities are operating drones for infrastructure inspection and emergency recovery under Part 107, but these regulatory limitations interfere with the widespread integration of drones into the planning and recovery efforts of electric utilities, as well as with the implementation of security measures to protect critical infrastructure.

On July 15, 2016, the FAA Extension, Safety, and Security Act of 2016 (FESSA), was signed into law. FESSA included aviation safety provisions and multiple guidelines pertaining to drones, including directing the FAA to issue rules enabling the use of drones during certain emergencies and disaster response efforts, as well as beyond visual line-of-sight and at night. The 2016 law also directed the agency to develop a process to prevent the use of drones around critical infrastructure, such as electric generation and transmission facilities. Despite these efforts, FESSA did not go far enough to encourage widespread use of drones in utility operations, nor did it set a deadline for the creation of regulations with respect to no-fly zones around critical infrastructure.

In the fall of 2017, the Department of Homeland Security (DHS) began developing infrastructure selection methodology to support FESSA’s goal of restricting drone usage over designated critical infrastructure. APPA submitted comments on DHS’s proposed methodology to ensure that critical public power infrastructure is protected in any future rules, but neither DHS nor the FAA has acted on this guidance. In May 2018, the FAA announced its 10 local and state “drone partners” for its Unmanned Aircraft Systems Integration Pilot Program. This program was initiated pursuant to a presidential memorandum issued by President Trump in October 2017 to encourage state,

local, and tribal governments to assist federal regulators in establishing a regulatory framework that safely encourages innovation and drone integration.

On October 5, 2018, President Trump signed into law the FAA Reauthorization Act of 2018 (FAARA), which includes several drone provisions that will be helpful to public power. The new law prescribes a timeline by which the FAA must initiate a rulemaking for creating no-fly designations over critical infrastructure, and it requires the FAA to complete a rulemaking within a year of introducing the proposed rule. It also improves the waiver process to operate drones beyond visual line-of-sight, at night, or over people. In addition, it requires the FAA to create a new process for electric utilities to apply for waivers when operating drones during emergencies. The agency is also required to implement several new safety measures related to recreational drone users and counter-UAS technology.

On February 13, 2019, the FAA issued a Notice of Proposed Rulemaking (NPRM) in response to provisions in FESSA and FAARA on the operation of drones at night and over people. The NPRM proposes allowing drone users to operate at night and over people without waivers, as is required under Part 107 rules, in certain circumstances. On the same day, the FAA also issued an Advanced Notice of Proposed Rulemaking (ANPRM) seeking answers to questions on various public safety and national security issues associated with the integration of drones. The FAA noted that completion of both proposals would be subject to the agency finalizing rules on the remote identification of drones. Public power supports remote identification of drones because it would enable the FAA and relevant partners to enforce future no-fly rules over critical infrastructure as required in FAARA. The Department of Transportation recently suggested that it intends to propose remote identification rules in the summer of 2019.

American Public Power Association Position

APPA believes that FAARA will improve drone regulations for utility infrastructure inspection and operations and make it easier for utilities to use drones during emergency recovery and disaster situations. The 2018 law will also allow public power utilities to work with the federal government to protect critical assets by outlawing the operation of drones by private citizens over and around critical infrastructure. As the FAA and other

relevant agencies implement FAARA’s provisions, public power will continue to work with these agencies and Congress on the development of new laws and regulations to keep pace with this rapidly evolving technology. For example, on April 15, 2019, APPA submitted joint comments with the Edison Electric Institute (EEI) and the National Rural Electric Cooperative Association (NRECA) on the FAA’s NPRM and ANPRM. Collectively, APPA, NRECA, and EEI are supportive of the NPRM, and encouraged FAA not to wait to finalize these rules until remote identification rules are finalized. In comments relating to the ANPRM, APPA, NRECA, and EEI encouraged FAA not to establish an across-the-board stand-off distance restriction for all drone operations and said that a minimum stand-off distance from a utility’s own equipment would reduce the usefulness of the technology. If, however, FAA does impose a uniform stand-off distance restriction, the electric industry should be granted an exception.

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