

Congressional Testimony

“Unmanned Aircraft Systems: Emerging Uses in a Changing National Airspace”

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Chairman LoBiondo, Ranking Member Larsen, and Members of the Subcommittee, thank you for inviting me to testify today. I am Billy Ball, Executive Vice President and Chief Transmission Officer at Southern Company. Southern provides electricity and natural gas to 9 million customers through our subsidiaries: electric operating companies in four states and natural gas distribution companies in seven states. We operate nearly 200,000 miles of electric transmission and distribution lines and more than 80,000 miles of natural gas pipeline. We support a full portfolio of energy resources, including carbon-free nuclear, 21st century coal, natural gas, and renewables.

Southern Company believes in leveraging innovation to keep energy safe, reliable, secure, and affordable. We are among the earliest adopters in the energy industry, or any other industry, of unmanned aircraft systems (UAS), also known as drones.

Our company, and the electric power industry at large, is committed to building smarter energy infrastructure that is reliable and resilient to all hazards—from natural events like storms to manmade malicious attacks. Drones are a critical part of our strategy, both for inspecting and maintaining our infrastructure to prevent outages and for our efforts to respond and to recover following incidents. Drones can also go places where planes cannot. From the inside of a boiler or a stack to flying in wide-open transmission rights of way, drones provide a valuable service.

As far as infrastructure inspection, we are much like our counterparts in other industries. We would like to make greater use of drones because they are a flexible platform and a safe, efficient way to gather data. For many years, we have used helicopters and fixed wing aircraft for the regular inspection of our generation, transmission, and distribution assets. Drones can be used in all of those cases. Today, however, manned aircraft are often more effective because of regulatory constraints on drone usage. Inspections with manned aircraft can be challenging due to low altitude flight near towers, wires and other fixed objects. Sadly, I have experienced this first hand when we lost a seasoned pilot and inspector in a helicopter crash during an inspection of a transmission line after a severe thunderstorm event. Being able to displace the use of manned aircraft with drones to inspect our infrastructure will reduce the safety risk to our employees.

I know that disaster response and recovery are important to this Committee, given your oversight of the Federal Emergency Management Agency. In that role, electric companies are not like every other company. We work alongside first responders to restore service as quickly and safely as possible. Today's hearing follows a historically destructive series of storms: Hurricanes Harvey, Irma, Maria, and Nate, as well as wildfires in the western United States. Though still a new technology, drones already have become an important part of disaster recovery. The ability to gain situational awareness during times when many areas are inaccessible by other means allows our crews to develop a more informed restoration strategy. Human based flights have to wait until the weather is acceptable but we can get drones up quicker and begin the assessment process sooner. Drone flights, when approved, during low light or dark hours could also further reduce the time required for initial damage assessments, ultimately getting the power back on faster.

There are yet-to-be-implemented provisions in the 2016 Federal Aviation Administration (FAA) law that would improve our use of drone technology. In particular, Section 2207 requires the FAA to publish guidance for emergency certificates of authorization or waivers for the use of UAS in response to a catastrophe, disaster, or other emergency to facilitate emergency response operations, such as firefighting, search and rescue, and infrastructure restoration efforts.

Since weather is an unavoidable part of our business, we constantly work to get better and to prepare during “blue sky” days. In this space, a strong partnership with the public sector—federal, state, and local governments—is key.

Fortunately, such a collaboration exists: the Electricity Subsector Coordinating Council (ESCC) is comprised of the CEOs of 21 electric companies and nine major industry trade associations. The ESCC includes all segments of the electric power industry, representing the full scope of electricity generation, transmission, and distribution in the United States and Canada. Southern Company’s Chairman, CEO and President Tom Fanning serves as one of three co-chairs of the ESCC.

During incidents, the ESCC helps to coordinate efforts across industry and government in response to all hazards. During the most recent storms, the ESCC worked with partners like the Departments of Energy and Homeland Security and with the FAA to remove temporary flight restrictions for both manned and unmanned aircraft quickly to assist with aerial damage assessments.

Southern used UAS in our service territory and also responded to our fellow companies that needed the technology and associated operators. Our industry has well-established mutual assistance programs that leverage lineworkers and other resources and equipment. In the aftermath of Hurricane Harvey, Southern Company was able to provide mutual assistance to Centerpoint by providing six UAS teams. These UAS teams included drones and employees skilled in piloting and analyzing data from drones. These six teams were able to make multiple flights in areas no longer easily accessible due to flooding. Additional flights would have been possible with fewer regulatory restrictions. Providing drone teams through mutual assistance was a first for Southern Company and lessons learned from this effort will be used to develop policies across the sector that will allow companies to share drones and drone operators more efficiently and to integrate UAS into our existing mutual assistance programs more formally and systematically.

Internal to Southern Company, we utilized 16 drones in our own response to Hurricane Irma which caused wide spread outages in the state of Georgia. Coordination with the Georgia Emergency Management Agency provided improved access to making UAS flights. The use of drones improved our damage assessment process and provided us with more valuable experience in using this technology after storms.

That spirit of collaboration also sets the electric power industry apart from other businesses. We do not compete against one another, and we welcome sharing best practices. In fact, through our trade association, the Edison Electric Institute, we have formed a UAS Executive Task Force to

do just that. With that in mind, we urge Congress and the FAA to consider electric companies to be an important drone end-user and stakeholder.

When pilot projects, task forces, advisory committees, and the like are created, critical infrastructure sectors, and particularly electric companies, should be involved. The lessons learned by one pilot company will be shared industry wide—to the benefit of all customers. The electric power industry is critical to life, health, and safety. Electricity runs our economy. As such, we need the best tools at our disposal.

Congress and the Administration also can advance drone technology for the benefit of smarter, stronger energy infrastructure by promulgating regulatory and legislative policies that encourage innovation without sacrificing safety. Few would disagree that regulation does not move as fast as technology. This is particularly pronounced in the drone space.

It is clear that the FAA plans to regulate in a crawl, walk, run mode. For a new technology, that approach makes sense. But the quicker we can get to “run” safely with drones, the better. Southern was an early recipient of a Section 333 exemption, and, while it was helpful to get our drone program off the ground, it still was limited. Once the Part 107 rulemaking was finalized, we also were an early recipient of a waiver to fly at night.

Without further loosening in the regulatory space, drones will not see their full potential. Southern is part of an industry consortium that submitted a Part 107 waiver to demonstrate beyond visual line of sight (BVLOS) inspection of energy infrastructure. The group filed the applications shortly after the effective date of the Part 107 rule. However, like many BVLOS waivers, it has not been acted upon. We support the Part 107 waiver transparency provisions in the House and Senate FAA reauthorization bills; showing what applications are successful will lead to more successful applications.

It is important to note, Congress already has called on the FAA to prioritize these kinds of applications. Section 2210 of the 2016 FAA law allows for an application to the FAA “to operate an unmanned aircraft...beyond the visual line of sight... and during the day or at night” for “activities to inspect, repair, construct, maintain, or protect covered facilities,” including natural gas pipelines, electric generation, transmission, and distribution systems, and “any other critical infrastructure facility.” We agree that when innovative drone flights are being allowed, critical infrastructure should be at the front of the line.

My experience is in transmission. Across the industry, there are more than 380,000 miles of transmission lines in the United States: enough to wrap around the Earth 15 times. Much of these lines are in remote locations where there should be no manned aircraft and where there are clear rights of way present. Imagine inspecting those lines many miles at a time instead of mile by mile as is the case now with drones. The improvements in safety and efficiency are overwhelming. Other places in the world already are doing this. Indeed, our technology partner in the demonstration project did this exact kind of BVLOS inspection in Europe. We want to work with the FAA to get projects like this green-lighted.

During this time, we are working with others in the industry through the Electric Power Research Institute (EPRI) to undertake research on multiple UAS use cases. We want to be ready when more regulatory flexibility is available to use this new technology to the fullest benefit of our customers. This research includes BVLOS uses as well as possible uses for drones to take measurements from and make repairs on electric infrastructure. As mentioned before, the uses for this new technology are very broad.

Drones are a game-changing technology for companies like Southern. The use and usefulness of drones only will continue to grow. Congress and the FAA have the power to control that growth. In closing, I urge Congress and the FAA to continue to pursue policy that allows for the safe integration of UAS into the National Airspace. Of particular importance, we call on FAA to finish the guidance and rulemakings called for in the 2016 FAA bill, and to work with end users like my company to use Part 107 waivers to advance drone technology while continuing work on the next phase of regulation. For the benefit of millions of American electric and natural gas customers, we encourage Congress and the Administration to move forward swiftly and safely.