

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Dynetics, Inc. Request for Modification of	)	
Temporary Freeze on Non-Federal	)	
Applications in the 3100-3550 MHz Band	)	WT Docket No. 19-39
	)	
Dynetics, Inc. Request for Limited Waiver of	)	
Temporary Freeze on Non-Federal	)	
Applications in the 3100-3550 MHz Band	)	

To: Chief, Wireless Telecommunications Bureau

**COMMENTS OF  
SOUTHERN COMPANY SERVICES, INC.**

Southern Company Services, Inc., on behalf of itself and its operating affiliates (collectively “Southern”), hereby submits its comments in response to the Commission’s Public Notice inviting comment on two petitions filed by Dynetics, Inc. (“Dynetics”) seeking partial relief from the temporary freeze on non-federal applications in the 3100-3550 MHz band.<sup>1</sup> Southern strongly supports prompt grant of one or both of the petitions filed by Dynetics so that Southern may continue to request and obtain licenses in the Part 90 Radiolocation Service for ground-based radar systems needed to protect critical electric infrastructure.

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<sup>1</sup> *Wireless Telecommunications Bureau Seeks Comment on Dynetics, Inc. Request for Modification, Waiver of Temporary Freeze on Non-Federal Applications in the 3100-3550 MHz Band*, Public Notice, DA 19-378 (WTB May 28, 2019).

## **I. Introduction**

Southern Company Services, Inc. is a wholly-owned subsidiary service company of Southern Company, a holding company based in Atlanta, Georgia. Southern Company owns three electric utility subsidiaries – Alabama Power Company, Georgia Power Company, and Mississippi Power Company – that provide electric service to approximately 4.1 million customers in a service territory of more than 100,000 square miles. Southern Company also supplies wholesale electric power to municipalities, rural electric cooperatives, and other distribution providers through its Southern Power subsidiary, which operates nearly 50 natural gas, solar, wind, and biomass electric generating facilities in nine states.

In addition to its power generation and distribution facilities, Southern Company is responsible for more than 27,000 miles of transmission lines, 3,700 substations, and 300,000 acres of rights-of-way. Southern’s interstate transmission of electric power is subject to regulation by the Federal Energy Regulatory Commission (“FERC”), which has designated the North American Electric Reliability Corporation (“NERC”) as the organization responsible for developing and enforcing mandatory standards for the safe and reliable operation of the bulk electric system. Southern’s transmission system is therefore required to meet NERC safety and reliability standards, as approved and enforced by FERC.

## **II. Radiolocation Service Frequencies at 3100-3300 MHz Are Needed to Protect the Nation’s Critical Infrastructure**

Because of increasing threats to the nation’s critical electric infrastructure over the last several years, FERC and NERC have taken steps to promote enhanced physical security at critical facilities to help maintain reliability of the nation’s bulk electric system. On November 20, 2014, FERC approved a new Critical Infrastructure Protection (“CIP”) standard, “CIP-014-1 – Physical Security,” which was developed by NERC in response to a March 7, 2014, FERC

order directing the development of a standard that addresses physical security threats and vulnerabilities. The standard was later revised as “CIP-014-2” and became effective in October 2015.

CIP-014-2 requires each transmission system operator to periodically identify critical assets, evaluate potential threats to and vulnerabilities of those assets, and “develop and implement a documented physical security plan” that addresses these vulnerabilities.<sup>2</sup> Physical security plans must be designed to “deter, detect, delay, assess, communicate, and respond to potential physical threats and vulnerabilities identified during the evaluation [of those assets].”<sup>3</sup> The physical security plan also must present a “timeline for executing the physical security enhancements and modifications specified in the physical security plan.”<sup>4</sup>

The NERC standards only apply to assets that are critical to reliability of the interconnected bulk electric system, but Southern also must ensure physical security for other elements of its electric operations, including generating plants, energy control centers, and distribution substations serving critical customer locations. These properties vary greatly in size and each requires a custom-configured security solution. While distribution substations encompass about 5-10 acres, energy control centers and transmission substations typically encompass 30-55 acres and generating plants can cover over 350 acres.

Several years ago Southern identified ground-based radar as a viable solution to enhancing physical security at its critical facilities. This technology proved to be effective in

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<sup>2</sup> CIP-014-2, Requirement R-5.

<sup>3</sup> *Id.*, Requirement R-5, Section 5.1.

<sup>4</sup> *Id.*, Requirement R-5, Section 5.2.

providing early detection, operator awareness, event logging and comprehensive defense against potential intruders. Georgia Power and Alabama Power spent over one year identifying and evaluating different radar systems that could be used at critical facilities before selecting the GroundAware technology developed by Dynetics.

During its technology evaluations, Southern found that ground-based radar provides monitoring over an entire facility as well as approaches to the facility, while minimizing costs of deployment and maintenance. For example, a typical substation can be monitored with two or three Dynetics radar systems and three to five pan-tilt-zoom (“PTZ”) cameras. The Dynetics radar systems are tightly integrated into the utility’s substation video management system. If an intrusion is detected by the Dynetics radar system, it automatically slews the PTZ cameras to the targets detected by the radar and tracks the targets as they move around the facilities. The Dynetics radar is also integrated into the company’s access management and alarming system. When the Dynetics radar detects an intruder it issues an alarm to the company’s security monitoring center and displays the location of the intruder on satellite imagery. This integration allows the monitoring center operator to access both the radar interface and video stream as a single system. The utility is able to monitor for intrusions, and even potential intrusions, over a much wider area and without needing to increase staff at the security monitoring center. Event logging of the tracks made by the intruder are also provided for post event assessment and investigation.

Southern considered a system built around fixed video cameras and video analytics, but this solution would require many more cameras, and the cameras would only cover the perimeter of each property. A video analytics system would only respond when an intruder crosses in front of a camera; thus, it would not provide early warning of persons or vehicles approaching the

property or offer an assessment of likely intent. Southern also considered fence sensors. However, and similar to video analytics, fence sensors would only detect intrusions at the perimeter of the property and would not provide notification of persons or vehicles approaching the property. Fence sensors are also prone to false alarms.

Dynetics radar systems have already demonstrated their value in protecting Southern's facilities. Within the last year, Georgia Power detected and responded to intruders at two different facilities where the Dynetics radar was operational. In just the first week of this month (June 2019), Dynetics radar detected and responded to two intrusions over high masonry walls surrounding a critical substation. Likewise, Alabama Power has detected intruders at three different facilities over the last year where the Dynetics radar was operational. One event occurred at a large Hydroelectric generating facility where four intruders were approaching the spillway at the base of the dam. The radar detected the intruders over 1000 feet away in complete darkness and directed the infrared cameras to slew toward and track the intruders completely automated such that security personnel could dispatch law enforcement. At this site, only two radar units and nine cameras were needed to protect a 1000 ft. x 1600 ft security perimeter encompassing 367 acres.

The Manager of Infrastructure Protection, Corporate Security, for Georgia Power has reported that in several decades of experience in law enforcement and corporate security he has not seen an intrusion detection technology as effective as this ground-based radar system. The system allows the utility to "deter, detect, delay, assess, communicate, and respond to potential physical threats and vulnerabilities" as mandated under the CIP-014-2 standard. More importantly, the system prevents disruption to utility operations and deters intruders from entering facilities where they could come in contact with high-voltage equipment.

### **III. The Licensing Freeze Is Jeopardizing Security of Critical Infrastructure**

Georgia Power currently has around twelve facilities with Dynetics radar systems, including two sites that are subject to CIP-014-2 standards. Georgia Power has plans to install at least five more systems by the end of 2019, including one at a site subject to CIP-014-2 standards. The utility also plans to add Dynetics radar at six or seven facilities per year over the next five years. Alabama Power currently has around 20 facilities with Dynetics radar operational with 11 additional sites planned for completion by the end of 2020.

The current licensing freeze in the 3100-3550 MHz band has jeopardized Southern's ability to promptly and comprehensively improve physical security at its facilities. These intrusion detection systems require long lead times for planning, licensing, installation, testing, and integration with existing systems. Permanent or even temporary loss of this spectrum would require Southern to identify second-best intrusion-detection solutions for its other facilities, which would increase on-going support costs to maintain different types of systems, and it would eliminate the efficiencies which have been achieved at Southern's security monitoring centers. Indeed, the Commission very recently acknowledged that use of radar for protection of critical infrastructure serves the public interest:

“We agree that UAS [unmanned aircraft system] detection is an important public safety function, and that facilitating the deployment of new, more effective technology to protect critical infrastructure and other sensitive areas furthers the public interest.”<sup>5</sup>

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<sup>5</sup> *In the Matter of Echodyne Corporation, Request for Waiver of Part 2 and Part 87 of the Commission's Rules*, Order, DA 19-556, para. 7 (WTB MD rel. June 12, 2019).

Southern therefore fully supports the “Request for Modification of Freeze” filed by Dynetics on May 17, 2019. Southern agrees with Dynetics’ assessment that, while there has been some discussion of making “alternative use” of the 3450-3550 MHz portion of the 3100-3550 MHz band pursuant to the MOBILE NOW Act, it is not evident that the 3100-3450 MHz portion of the band is under active consideration for alternative uses. If this is indeed the case, it would be appropriate for the Commission to limit the freeze to the 3450-3550 MHz band and to immediately resume licensing in the 3100-3450 MHz band. Southern agrees with Dynetics that continued licensing and deployment of GroundAware systems will not have an adverse impact on the spectrum environment at 3100-3300 MHz.<sup>6</sup> Southern is not aware of any harmful interference from its current operations to any other federal or non-federal systems in the band, nor does Southern anticipate that its operation of additional GroundAware systems will cause harmful interference to other systems. In any event, Southern acknowledges that its use of the 3100-3300 MHz band for ground-based radar is on a secondary basis to federal radiolocation operations.<sup>7</sup>

On the other hand, if the entire 3100-3550 MHz band is, in fact, under active consideration for alternative uses, and if a freeze is otherwise justified for the entire band, Southern would agree with the proposed terms and conditions for waiver, as suggested by Dynetics in its “Request for Limited Waiver,” also filed on May 17, 2019. Southern further recommends that the Commission lift the freeze with respect to the 3100-3300 MHz band as

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<sup>6</sup> “Request for Modification of Freeze,” at 17, n. 37.

<sup>7</sup> 47 C.F.R. §90.103(c)(12).

soon as it is determined that this band segment is no longer under active consideration for alternative uses pursuant to the MOBILE NOW Act.

#### **IV. Conclusion**

Southern fully supports the two petitions filed by Dynetics seeking relief from the licensing freeze in the 3100-3550 MHz band. The freeze has had the unintended effect of halting any further deployment of ground-based radar systems that are needed to provide intrusion monitoring and response at facilities that are critical to the safe and reliable operation of the interconnected electric grid. As evidenced by orders of the Federal Energy Regulatory Commission and the increasing threats to the nation's critical energy infrastructure, Southern's inability to further deploy these systems could have an adverse impact on public safety, health and welfare.<sup>8</sup> Southern therefore agrees with Dynetics that the freeze should be limited to the upper portion of the band, where some interest has been expressed in alternative uses of the spectrum, and the Commission should immediately resume the licensing of non-federal Radiolocation Service facilities under Part 90 of the FCC's Rules.

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<sup>8</sup> 47 U.S.C. §151 (authorizing creation of the FCC to, among other things, promote the availability of radio communications "for the purpose of national defense, [and] for the purpose of promoting safety of life and property.")



**WHEREFORE, THE PREMISES CONSIDERED**, Southern Company Services, Inc.  
respectfully requests that the Commission take action in this docket consistent with the views  
expressed herein.

Respectfully submitted,

**SOUTHERN COMPANY SERVICES, INC.**

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Its Attorney

June 12, 2019

### **CERTIFICATE OF SERVICE**

I, Michaelleen Terrana, a Legal Assistant with Levine, Blaszak, Block & Boothby, LLP, hereby certify that I have caused to be sent, by first class mail, postage prepaid, a copy of the foregoing “Comments of Southern Company Services, Inc.” to the following this 12<sup>th</sup> day of June, 2019:

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