Executive Summary

Problem Statement. Each day, the skies above the U.S. are populated by approximately 2 million Americans who have no means to communicate with the outside world while they are airborne. Moreover, because of where they are, these individuals face unique vulnerabilities to their safety. While public safety entities have begun using broadband services to greatly improve their ability to protect communities on the ground, broadband services are even more critical to the protection of the more vulnerable portion of the U.S. population that is in the air at any given time. Yet, the majority of commercial aircraft remain unconnected to the Internet, leaving both passengers and public safety officials out of touch with the ground. Through private funding, Aircell has already constructed a state-of-the-art middle mile network to support robust air-to-ground (‘ATG’) broadband service across the entire lower 48 states. To date, the equipment needed for the ‘last mile’ link has been installed on about 780 aircraft representing 23% of the approximately 3,400 U.S. commercial mainline fleet. Where it is available, Aircell’s broadband service has become an integral operational component for the law enforcement and public safety entities charged with protecting U.S. airspace and the traveling public. It is also used by the flight crew to enhance their ability to handle in-flight medical emergencies by enabling real time communication with health care specialists. NTIA has already recognized that Aircell’s broadband service is used ‘for mission critical air-to-ground communications for Federal law enforcement officers in flight,’ noting that it operates on ‘the only spectrum available for this application.’ Indeed, after using the service, these entities have become even more cognizant of its benefits, and have asked for a rapid expansion of the service so that many more flights can receive access. They have also requested that Aircell develop a system that will also enable service on the international flights of U.S. carriers. The recent attempted terrorist bombing of an international flight on Christmas Day 2009 has heightened the awareness of the need for improved air-to-ground communications. Proposed Solution. Aircell’s proposed two-part project responds to these two requests from public safety agencies, consistent with the Recovery Act’s goal of ‘improving access to, and use of, broadband service by public safety agencies.’ First, Aircell seeks BTOP funding to finalize development of and deploy an overwater solution for the 408 U.S. carrier aircraft that are used on international flights. The solution would deploy a hybrid technology consisting of both terrestrial ATG and Ku-band satellite subsystems. Aircell proposes a BTOP funding subsidy of only 21% of the total cost to accomplish this goal. Second, Aircell proposes a BTOP funding grant of 42% that will enable airborne broadband equipment to be installed on an additional 752 mainline domestic aircraft. The BTOP grant will enable Aircell to increase the Aircell equipped fleet to 2,638 aircraft representing about 78% of the U.S. mainline fleet. This rapid expansion will ensure that public safety officials, flight crew and consumers will
have broadband access on the majority of commercial flights within the next two years. The Aircell project proposal is an expansion of its existing business plan and could begin within a few weeks of grant approval. Indeed, domestic aircraft installations can be completed overnight, and multiple aircraft can be equipped each day, making it possible to achieve very rapid coverage improvements within a short period. Service Offering & Network Technology: Aircell will provide public safety, law enforcement, flight crew and consumers with broadband access to the Internet. Users simply connect their computers or handheld devices to the service through a standard Wi-Fi broadband system onboard the plane, as with a ground-based 'HotSpot.' In addition, the flight crew will have access to cabin-mounted handsets that enable VoIP connections to select locations on the ground, including medical emergency hotlines. The air-to-ground link in the network is provided using mobile EV-DO technology. Company Qualifications: No company is more qualified for implementing the proposed project than Aircell. Aircell has been in the airborne communications business since the early 1990s. Aircell's Business Aviation division has installed satellite-based communications systems in over 4,700 aircraft and equipped 150 jets with ATG systems. To enter the commercial aviation market Aircell's engineers developed patented and award-winning technology through the adaptation of cellular mobile technology and overcame the challenges posed by distance and speed in an airborne environment. Since purchasing the ATG spectrum license at the FCC auction and building out its broadband network (which is highly reliable, with greater than 98% availability), Aircell has procured nine leading U.S. airlines as customers: AirTran Airways, Alaska Airlines, American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, United Airlines, US Airways, and Virgin America. Job Creation: Aircell estimates that the BTOP funding would directly support approximately 300 Aircell or contractor jobs through the course of the grant period, not counting the additional jobs of Aircell's suppliers that would be supported. This number includes both new jobs created as well as some 'saved' jobs for positions that would otherwise have to be eliminated without funding.