

## Broadband USA Applications Database

**Applicant Name:** United Utilities, Inc.

**Project Title:** TERRA-SW: Terrestrial Broadband In Southwestern Alaska

**Project Type:** Middle Mile

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### Executive Summary

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Opportunity. TERRA-Southwest (TERRA-SW or Project) will, for the first time, deliver middle mile terrestrial broadband service from the Internet backbone in Anchorage to 65 economically challenged rural communities (64 unserved and 1 underserved) in the remote Yukon-Kuskokwim Delta (Delta) and Bristol Bay regions of southwestern Alaska (Service Area). The Project will dramatically expand communications options for all end-users; improve crucial telemedicine and distance learning services; support private/public economic development efforts; and enhance the operations of government, tribal, and non-profit entities. TERRA-SW builds directly on the success of DeltaNet, an RUS-funded project in the Delta. See videos at [success.gcimbs.net](http://success.gcimbs.net). Service Area. The Service Area is a vast wilderness (roughly the size of North Dakota) with a harsh subarctic climate. Residents are predominantly Yup'ik Eskimo Alaska Natives. Most residents live in a mixed cash/subsistence economy, depending on government/non-profit employment, government transfer payments, and subsistence hunting, fishing, and gathering activities. Year-round private sector jobs are scarce, as are most of the amenities that urban Americans take for granted. The communities to be served by TERRA-SW are scattered across this huge landscape without the benefit of a road system. Inter-community transportation is limited to airplanes, boats, and snowmobiles. As a result, residents rely on telecommunications for basic commerce and essential public services such as healthcare and education. UUI has received letters of support for the Project from designated community leaders in each of the communities to be served.

Broadband System. Today, the Service Area is linked to the Internet backbone primarily by two private satellite networks. Although satellite service plays a crucial role in providing telecom services in rural Alaska, the latency inherent in satellite service limits its usefulness in next-generation Internet/computer/telemedicine/distance learning applications. In addition, the high cost of satellite service makes it a problematic platform for expanding affordable broadband Internet service to end-users. By deploying a hybrid fiber-optic-and-microwave broadband middle mile network, UUI will bypass the limitations of satellite service. TERRA-SW will maximize use of terrestrial routes to minimize the possibility of lengthy, expensive-to-repair service outages caused by breaks in submarine fiber optic cable locked under sea ice in Bristol Bay and the Bering Sea for up to six months a year. TERRA-SW will not perpetuate the digital divide by providing broadband only to regional centers like Dillingham while ignoring the villages where broadband service is needed the most. Instead, the Project will provide broadband among all communities (regional centers and villages) within the Service Area and between those communities and the Internet backbone in Anchorage. TERRA-SW will serve 43 communities that currently have regional terrestrial broadband service through DeltaNet but depend on satellite for their connection to the Internet backbone and 22 communities that now rely entirely on satellite for all their

connectivity. These 65 communities represent 35% of the total number of satellite-served rural communities in Alaska. Households, Businesses, and Other Entities Passed. TERRA-SW will pass 9,089 households and 748 businesses in the 65 communities. The Project will also pass numerous public /non-profit/ private community anchor institutions and entities, most of which are already customers of UUI and its affiliates, and many of which have been involved in scoping and planning TERRA-SW. • Regional Health Care Providers: Yukon Kuskokwim Health Corporation and Bristol Bay Area Health Corporation (2 regional hospitals and 63 subregional and village clinics). • School Districts: 11 districts with 72 schools. • Alaska Native Corporations (established by Congress to implement the Alaska Native Claims Settlement Act): Bristol Bay Native Corporation and Calista Corporation (regional corporations for Bristol Bay and the Delta); Choggiung Limited (Dillingham), Bethel Native Corporation (Bethel) and 61 other Native village corporations. • Alaska Native Organizations and Tribal Governments: Association of Village Council Presidents (representing 56 tribes) and Bristol Bay Native Association (representing 31 tribes) and their affiliated organizations. Proposed Services. TERRA-SW will offer middle mile bandwidth at broadband speeds to carriers and other customers. Pricing will be built around the purchase of distance-insensitive, symmetrical 1Mbps circuits. All endpoints in the Project will have identical pricing, and capacity increases will be available in 1Mbps increments. To the extent that its customers require, the Project may also provide dedicated circuits. Non-Discrimination and Interconnection Obligations. As a middle mile provider, UUI will operate TERRA-SW in conformance with the FCC's Internet Policy Statement and the other NOFA-required Nondiscrimination and Interconnection Obligations. The Project will enable end-users to access the public Internet backbone while providing managed services for telemedicine, distance learning, and other applications. UUI will offer wholesale and retail services to carriers and other customers that wish to provide or use broadband and other services in Service Area communities. UUI will negotiate in good faith with any party making a bona fide request for interconnection. Qualifications of Applicant. UUI has been a trusted provider of local telephone and other telecom services in the Delta for more than 30 years. In 2004, UUI began the construction of DeltaNet, a \$50 million regional broadband microwave network that currently serves communities throughout the Delta. The project has been an across-the-board success, operationally and financially. TERRA-SW will leverage that success (and the \$30 million in RUS-provided DeltaNet loans) by linking DeltaNet back to the Internet backbone. DeltaNet proved UUI's ability to successfully design, engineer, construct, and operate major broadband infrastructure projects. UUI's president, Steve Hamlen, leads a cohesive team with deep experience in building and operating rural telecom infrastructure and in working collaboratively with government, Native corporations, and tribes. UUI's expertise is complemented by that of its parent GCI, which is Alaska's largest telecom provider with \$575 million in revenues and \$171 million in EBITDA in 2008. TERRA-SW will require the construction and operation of submarine fiber, buried and pole-line terrestrial fiber, and microwave facilities in some of the most challenging environments in the world. The UUI team has the expertise and experience necessary to make the Project a success for the residents of the Service Area and the Federal broadband stimulus program. GCI will stand behind UUI's commitments and make available whatever additional resources are required to ensure the technical and financial feasibility of TERRA-SW. In fact, GCI is so certain of the Project's success that it will guarantee any loan made to UUI by RUS. Overall Infrastructure Cost. The overall cost of TERRA-SW is \$88,140,760. In light of the history of major Alaska telecom projects that failed because of over-optimistic financial projections, UUI has not adopted a "build it and they will

come” strategy in proposing the Project. Rather, UUI has secured GCI’s commitment to purchase middle mile capacity to carry GCI’s existing long-haul voice and data traffic and serve the needs of GCI’s commercial residential, and critical community facility customers in the Service Area. The GCI purchase commitment, in itself, guarantees the financial feasibility of TERRA-SW. Overall Expected Subscriber Projections. 100% of the economically feasible households and businesses in the Delta/Bristol Bay regions will be covered by TERRA-SW. To maximize the benefit of the Project to all end-users in the Service Area, UUI has secured GCI’s commitment to deploy last mile broadband service in every community served by the Project. Within the next 5 years, broadband subscribership is estimated to grow to approximately 7,200 residential end-users (80% penetration) and approximately 185 commercial end-users (25% penetration). All of the critical community facilities in the Service Area (approximately 130 in number) are expected to receive broadband service. Number of Jobs Estimated to Be Created or Saved. The construction of TERRA-SW will create at least 80 direct jobs in the Service Area. Additionally the manufacture and transportation of the equipment required by the Project will create an additional 25 additional jobs. The resulting economic development in the Service Area will create or save an additional 180 jobs in critical community facilities and local service providers. Very importantly, TERRA-SW will help preserve the Yup’ik culture and a unique way of life by encouraging economic development in the Service Area, thus allowing residents to obtain jobs while continuing to live in their ancestral home.