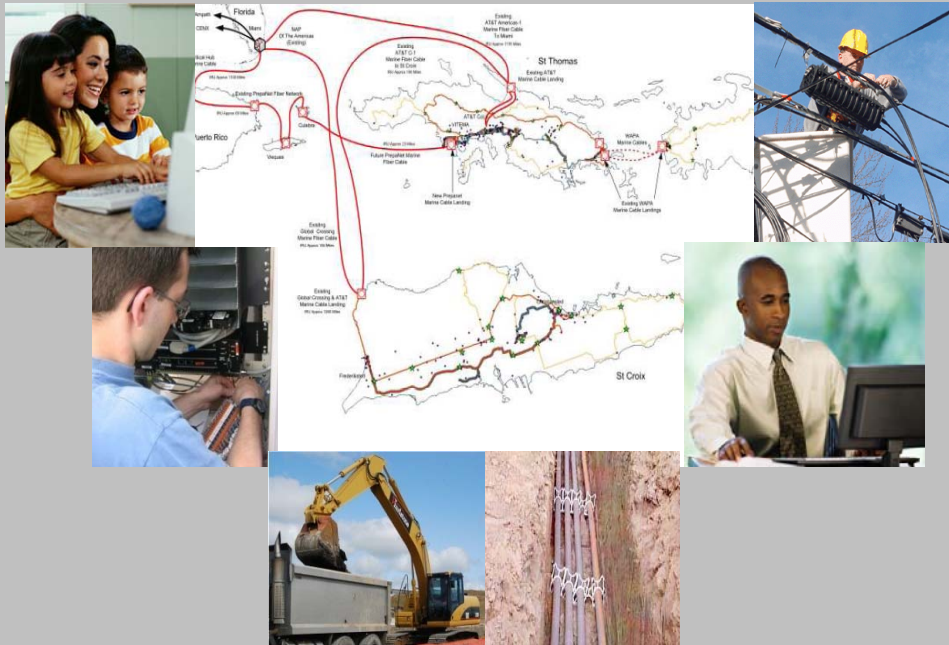


Final Environmental Assessment

Virgin Islands Next Generation Network
Comprehensive Community Infrastructure Program

Broadband Technology Opportunities Program



March 25, 2011

Submitted to:

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For The

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Acronyms and Glossary of Terms

AGL	Above Ground Level
AP	Access Points
ARCOS-1	Americas Region Caribbean Ring
ARRA	American Recovery and Reinvestment Act of 2009
BMPs	Best Management Practices
Broadband	of, relating to, or being a high-speed communications network and especially one in which a frequency range is divided into multiple independent channels for simultaneous transmission of signals (as voice, data, or video)
BTOP	Broadband Technology Opportunities Program
CAA	Clean Air Act
CEA	Council of Economic Advisors
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CEQ	Council of Environmental Quality
CO	Carbon Monoxide
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
dB	Decibel
dBA	A-weighted measurement
DEP	Division of Environmental Planning
DPNR	Department of Planning and Natural Resources
DPW	Virgin Islands Department of Public Works
EA	Environmental Assessment

ECP	Earth Change Permit
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Administration
Gbps	Gigabit per second
GDP	Gross Domestic Product
GERS	Government Employees Retirement Service
GHGs	Green House Gases
Gigabit	one billion bits
GIS	geographic information system
GVI	Government of the Virgin Islands
IRU	Indefeasible Right to Use
kilobits	one thousand bits
Mbps	megabit per second
megabits	one hundred thousand bits
NAAQS	National Ambient Air Quality Standards
NAPs	Network Access Points
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOT	Notice of Termination
NOx	Oxides of Nitrogen
NPL	National Priorities List
NRCS	National Resource Conservation Service

NTIA	National Telecommunications and Information Administration
QCEW	Quarterly Census of Employment and Wages
ROW	right(s)-of-way
SDB	Small Disadvantaged Business
SIP	State Implementation Plan
SOx	Oxides of Sulfur
SWPPP	Stormwater Pollution Prevention Plan
Telecom	Telecommunications
TMDL	Total Maximum Daily Loads
TPDES	Territorial Pollutant Discharge Elimination System
US	Unites States
USACOE	United States Army Corps of Engineers
USDOI	United States Department of Interior
USEPA/EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USVI	United States Virgin Islands
VICZMP	Virgin Islands Coastal Zone Management Program
viINGN	Virgin Islands Next Generation Network
VIPFA	Virgin Islands Public Finance Authority
VIR&R	Virgin Islands Rules & Regulations under Air Pollution Control Act
VISHPO	Virgin Islands State Historic Preservation Office
VITEMA	Virgin Islands Territorial Emergency Management Agency
VIWAPA / WAPA	Virgin Islands Water and Power Authority
WMA	Waste Management Authority

Executive Summary

Purpose and Need

The project purpose is to provide next-generation network broadband access to the United States Virgin Islands (USVI) as described in the Virgin Islands Next Generation Network (viNGN) Comprehensive Community Infrastructure Program grant application. The primary goals to be achieved as a result of this project are to have a broadband network that provides the USVI with:

- Fiber optic broadband infrastructure to every anchor tenant,
- Protection from major storm and hurricane damage through the underground deployment of a core ring infrastructure system,
- Multiple path connections utilizing existing submarine Indefeasible Right of Use (IRU), which is a contractual agreement between providers to obtain capacity along communications cables, and
- A fiber optic system which can be expanded as higher speed transmission technology evolves.

Hurricanes and other heavy storms in the USVI often disable communications systems until aerial wiring can be restored, leaving key institutions like hospitals and public safety agencies without essential broadband services when they are most needed.

Proposed Action

The Virgin Islands Next Generation Network (viNGN) project proposes to deploy a high-speed fiber network to the islands of St. Thomas, St. John, and St. Croix, creating a territory-wide middle mile network and connecting community anchor institutions with reliable high-speed Internet services. The project also intends to strengthen the USVI's external broadband connections utilizing submarine Indefeasible Right of Use (IRU). IRU is a contractual agreement between operators of a communications cable, in this case, 3,720 miles of existing undersea cable to Florida and Puerto Rico. The viNGN would enter into a contract agreement with the operators either directly or indirectly to acquire needed capacity for broadband services to the Territory. These undersea cables already exist and no new undersea cable construction will be required as part of this project.

Alternatives

Four alternatives were initially considered in this Environmental Assessment (EA). These include:

1. **Preferred Alternative** – Creation of a core ring fiber optic system in underground conduit on each island with aerial service to outlying areas.
2. **All Aerial Alternative** – Installation of fiber optic cable on poles along existing roads and utility rights-of-way (ROWs) where existing conduit is not available.

3. **Wireless Alternative** – Establish and construct a network of radio towers and microwave radios to provide wireless broadband. This alternative was excluded from consideration prior to analysis, as it fails to adequately support the broadband widths desired. In addition, microwave radio technology is not as reliable as fiber optics and would likely drive redundant wired projects on existing utility poles.
4. **No Action Alternative** – Do nothing.

This EA analyzes the All Aerial Alternative and the No Action Alternative relative to the Preferred Alternative. The Preferred Alternative was found to have similar environmental impacts to the All Aerial Alternative in most resource areas including noise, air quality, geology and soils, water, biological, historical/cultural, and land use. The Preferred Alternative provides the maximum level of socioeconomic and employment benefits, due to the greater effort required for installation of buried conduit and greater reliability of service for future economic development opportunities.

The All Aerial Alternative would not address the need for weatherproof redundant service that will not be interrupted by the hurricane conditions which frequently occur in the USVI. It therefore would not accomplish the project objectives. The All Aerial Alternative also would have slightly more impact on aesthetic and visual resources when compared to the Preferred Alternative because conduits will not be as visible as aerial service. Preservation of views and vistas is a high priority in the USVIs, where tourism accounts for 80 percent of Gross Domestic Product (GDP) and employment. Potential impacts to infrastructure are otherwise approximately equivalent.

The No Action Alternative fails to accomplish the project objectives.

Because the all Wireless Alternative would not provide the bandwidth required, this alternative was eliminated from further consideration. This EA therefore considers the impact of the Preferred Alternative, the viNGN and compares them to the impacts of an All Aerial Alternative and to the impacts of taking no action.

Environmental Consequences

Table ES 0-1 below summarizes the impacts of the alternatives. None of the alternatives under consideration would result in any significant adverse impacts as defined by the implementing regulations for the National Environmental Policy Act (see 40 CFR Part 1508.27).

Preferred Alternative

The Preferred Alternative is the viNGN, which will provide a hurricane and storm proof redundant core ring system on St. Thomas and St. Croix and serves outlying areas, including St. John, by aerial cable. This alternative is preferred because it best meets the goals and objectives of the project, it provides the highest level of employment, and offers the maximum level of socioeconomic benefits of the alternatives considered.

Table ES 0-1 Potential Effects of the Preferred versus the All Aerial and No Action Alternative

Resource	Preferred Alternative	All Aerial Alternative	No Action Alternative
Noise	Minor - Short-term impacts due to trenching and excavating equipment.	Minor - Short-term impacts due to cable installation.	No Impact – no construction required
Air	Minor - Short-term impacts due to emissions from construction equipment.	Minor – Short-term impacts due to emissions from construction equipment.	No Impact
Geology/Soils	Minor - Rock and soil excavation for conduits. Mitigated through sedimentation & erosion controls.	Negligible – Minor excavation only for pole replacements.	No Impact
Water	No Impact - Due to best management practices and avoidance of waterways and wetlands.	No Impact – Aerial installation would not affect water resources.	No Impact
Biological	Minor clearing of vegetation for Access Point sites and mounting aerial fiber optic. No Threatened & Endangered Species.	Minor trimming to facilitate addition of fiber optic cable to existing communication poles.	No Impact
Historic/Cultural	No Impact. Impacts to be avoided as per MOA.	No Impact	No Impact
Aesthetic/Visual	Minor – Most new Access Point Facilities and Aerial cable will be visible.	Minor – additional cable will be visible on existing communication poles.	No Impact
Land Use	Minor – New Access Point Facilities will be context sensitive and located on public land in public use.	Minor – New Access Point Facilities will be context sensitive and located on public land in public use.	No Impact
Infrastructure	Short-term Minor - viNGN cable to occupy some existing WAPA conduit and other utilities to be avoided. Traffic control measures will minimize traffic disruption.	Short-term Minor - above ground installation would avoid any potential utility conflicts. Traffic controls will minimize traffic disruption.	No Impact – No change in current infrastructure
Socioeconomic	Major Benefit - Improved broadband access, synergy with other projects to increase broadband penetration, job opportunities during construction and for maintenance, indirect benefits to economy. Continue use of broadband during natural disasters for communications and dispersion of information. No impact to minority or low income populations.	Moderate Benefit – Improved broadband access without increased reliability of underground conduit system needed for optimum economic effects. Fewer jobs created due to greater ease of construction. No impact to minority or low income populations.	No Impact – existing vendors will continue to provide less reliable service at higher prices. No impact to minority or low income populations.
Human Health/Safety	Minor - OSHA requirements will protect workers during and after construction. Potential improvements to education, public welfare, emergency services and health care may be realized through increased availability and reliability of internet service during natural disasters.	Minor - OSHA requirements will protect workers during and after construction. Potential improvements to education, public welfare, and health care through increased availability but not reliability of internet service. Loss of communication in hurricane and tropical storm conditions.	No Impact