

FY08 Technology

Staff Summaries and Recommendations

October 2007

The Technology Committee received 17 proposals by the August 31 deadline, requesting more than \$29 million of grant funds. The Committee has available balances (including carried-forward funds) of:

\$1,700,000 of Unrestricted funds

\$13,391,834 of Restricted funds

Town of Abingdon

Wi-Fi Wireless Broadband Access for Stonemill Business & Technology Park (#1490)

\$15,000

Funds requested to purchase and install a wireless mesh network system, tower and alternative power supply to provide redundant, uninterruptible and security-encrypted Internet service to the Stonemill Business & Technology Park. The redundant service is primarily needed by an 80-employee call center in the Park's small business incubator, but will additionally benefit incubator tenants and other Technology Park employers such as Alpha Natural Resources. The Town proposes to purchase a SkyPilot Networks system and place the tower on the adjacent campus of VA Highlands Community College. It will be operated as part of the Town's Electronic Village network. Future phases will expand the system throughout the Town for use by the general public and emergency services agencies.

Total project cost is \$30,580. Other funds include: \$15,580 Town and Electronic Village of Abingdon.

Staff comments & recommendation: Town was previously granted \$110,000 (FY01) for development of Stonemill Park, and Washington County has received \$900,000 (FY02-03) for development of the small business incubator in the park. This current project is well-targeted to serve technology-based employers, but appears to be within the ability of the Town to fund without grant assistance. **Staff recommends no award.**

Bristol Virginia Utilities

Installation of Backbone Fiber-Optic Infrastructure in the Town of Abingdon (#1469)

\$1,691,226

Funds are requested to expand BVU's backbone infrastructure and network into areas adjacent to existing fiber-fed locations within the Town of Abingdon. *The original request submitted for \$1,441,226 has been increased to add five miles of the construction described below.* This revised expansion will allow BVU to extend existing broadband data, telephone and CATV services along a 25 mile route passing 48 commercial and/industrial customers and approximately 1,994 residential customers.

Total project cost is \$1,775,787. Other sources of funds include: \$84,561 BVU in-kind to complete the fiber extension and provide customer access equipment.

Staff comments and recommendation: BVU has received TICR grants totaling \$11.3 million for broadband deployment to date (FY05-07). Requested amount has been increased to reflect construction that was requested and later deleted in an FY07 grant, increasing the size of the current project by approximately 20-25%. **Staff recommends award of the original requested amount of \$1,441,226.**

Bristol Virginia Utilities

Fiber Optic Backbone Infrastructure Installation for C&I Customers in Smyth & Washington Counties (#1470)

\$444,686

Funds are requested to extend backbone fiber optic infrastructure and last mile for commercial and industrial customers in Washington and Smyth counties. This extension will serve four industrial parks, one school system, one hospital with remote clinics, governmental offices in both counties and more than 52 commercial and industrial customers. BVU proposes to construct approximately 11.4 miles of fiber optic cable to provide service to these entities.

Total project cost is \$466,920. Other sources of funds include: \$22,234 BVU in-kind for extension of infrastructure.

Staff comments and recommendation: Staff recommends an award of \$444,686.

Bristol Virginia Utilities

Installation of Backbone Fiber-Optic Infrastructure in Washington County (#1471)

\$1,191,105

Funds are requested to expand backbone infrastructure into areas adjacent to existing fiber-built locations within BVU's electric service area. *The original request submitted for \$941,105 has been increased to add nine miles of the construction described below.* This revised 42.8 mile expansion will pass 37 commercial/industrial customers and approximately 1,275 residential customers along a 42.8 mile route.

Total project cost is \$1,250,660. Other sources of funds include: \$59,555 BVU in-kind for fiber extension and for access electronics.

Staff comments and recommendation: Requested amount has been increased to reflect construction that was requested and later deleted in an FY07 grant, increasing the size of this current project by approximately 27%. **Staff recommends award of the original requested amount of \$941,105.**

Bristol Virginia Utilities

Installation of Backbone Fiber-Optic Infrastructure in the Town of Bluefield (#1472)

\$515,668

Funds are requested to expand backbone infrastructure and the CPC/BVU network to commercial/industrial, educational and governmental locations within the town of Bluefield. This expansion will pass 59 commercial and/or industrial customers along a 7.9 mile route.

Total project cost is \$541,668. Other sources of funds include: \$25,783 BVU in-kind for fiber extension and to provide customer access equipment.

Staff comments and recommendation: Staff recommends an award of \$515,668

Bristol Virginia Utilities

Installation of Backbone Fiber-Optic Infrastructure in the Town of Marion (#1473)

\$460,680

Funds are requested to expand backbone infrastructure and BVU network to commercial/industrial, educational and governmental locations within the Town of Marion. This expansion will pass 54 commercial and/industrial customers along a 5.7 mile route.

Total project cost is \$483,714. Other sources of funds include: \$23,034 BVU in-kind for fiber extension and for access electronics.

Staff comments and recommendation: Staff recommends an award of \$460,680.

Bristol Virginia Utilities

Overlashing of Additional Fiber-Optic Cable onto Existing Infrastructure Between Abingdon and Lebanon (#1474)

\$188,475

Funds are requested to upgrade existing fiber-optic infrastructure between Abingdon and Lebanon. Approximately 15 miles of 96-count fiber will be installed along the existing infrastructure route. This enhancement, along U.S. Route 19/58 and Route 460 area, will allow BVU to have adequate fiber at the junction of three diverse and redundant rings. It will also provide enough fiber to extend broadband, point-to-point data services between commercial, industrial, educational and healthcare entities in Washington, Smyth and Wythe counties and the counties of the Cumberland Plateau Planning District. It will also increase connectivity between, BVU, CPPD, LENOWISCO and other regional and national carriers.

Total project cost is \$197,889. Other sources of funds include: \$9,424 BVU in-kind for fiber extension and for access electronics.

Staff comments and recommendation: Staff recommends an award of \$188,475.

Bristol Virginia Utilities

Fiber Optic Backbone Infrastructure Installation for C&I Customers in the CPPD (#1475)

\$708,160

Funds are requested to extend fiber-optic infrastructure and last-mile for commercial/industrial customers in the four counties of the Cumberland Plateau Planning District. *The original request submitted for \$458,160 has been increased to add three miles of the construction described below.* The recipients of this revised 13-mile extension includes 3 industrial parks, 2 school systems (including a central office), two hospitals with multiple remote clinics, governmental offices in four counties and over 87 commercial and industrial customers. Approximately 13 miles of fiber-optic cable will be constructed to provide service to these entities and will allow them to connect to the regional ring.

Total project cost is \$743,568. Other sources of funds include: \$35,408 BVU in-kind for infrastructure extension.

Staff comments and recommendation: Requested amount has been increased to reflect construction that was requested and later deleted in an FY07 grant. **Staff recommends award of the original requested amount of \$458,160.**

Carroll, Grayson, Galax Regional Industrial Facilities Authority

Grayson Fiber Backbone Project (#1481)

\$2,733,847.64

Funds requested for construction of 59 miles of 144-strand fiber backbone spanning Grayson County, connecting the localities of Independence, Galax and Fries, and extending along major roads to the county lines with Smyth, Wythe and Washington Counties. A combination of aerial and buried construction is planned, including VDOT right-of-way and bridge/water crossings. The backbone would pass 158 businesses and connect to BVU and Citizens Telephone backbone. The project arose from a Regional Telecommunications Master Plan funded by DHCD and compiled by the consulting firm Design Nine, which included an engineering study and business financial model. A regional broadband authority is being formed to manage the open access network. Revenue bonds will be issued to finance last mile construction using revenues derived from service providers who pay the authority a pre-negotiated portion of earnings on a per service, per customer basis. Twenty percent of network revenues would be dedicated to regional economic development efforts (infrastructure, staffing and business attraction/retention). The long range goal is to connect every premise in Carroll, Grayson and Galax to affordable services by 2012.

Total project cost is \$2,733,847.64. Other funds: none indicated.

Staff comments & recommendation: The applicant has not previously received TICR broadband grants. Project does not indicate any required matching funds for backbone construction, though \$734,000 is currently being spent to deploy infrastructure in a first phase, and the intent is to issue revenue bonds for last mile build-out in this phase. The project is the result of thorough planning processes including operating feasibility and engineering, though agreements for leasing of existing fiber within the project area and connectivity where the project terminates at neighboring counties have not been finalized. **Staff recommends request be tabled.**

Cumberland Plateau Company

Southwest Virginia Fiber Optic Backbone Phase III Funding Match (#1476) **\$1,550,000**

Funds are requested to extend fiber-optic backbone infrastructure along a 45 mile route from Vansant to Clintwood along Route 83 through Buchanan and Dickenson Counties. This extension will serve 2 industrial parks, 2 school systems, governmental offices in 2 counties and over 90 commercial and industrial customers and will connect these entities to the regional ring.

Total project cost is \$3,100,000. Other sources of funds include: \$1,550,000 EDA.

Staff comments and recommendation: The Cumberland Plateau broadband project(s) have received TICR grants totaling \$3.4 million to date. Project brings a dollar-for-dollar match of federal funds and completes a regional ring. **Staff recommends award of \$1,550,000.**

Duffield DR Operations Inc.

“3 Strides” – Regional Research Partnership (#1505) **\$2,892,054**

Funds requested by a newly-established Virginia non-stock corporation to create a grant that provides equipment to allow tracking of electronic health records (EHR) for 500 small medical practices (1-5 physicians practices, plus any public health agencies) in Southwest and Southside VA. EHRs would be used by the applicant and a private corporation (OnePartner) to compile patient data for proposed clinical research studies on management of diabetes. The applicant is a spin-off of the Holston Medical Group that is building a health data center in Duffield, and proposes to use CGI in Lebanon for central management of data. HER grant selection guidelines will be developed, and it is anticipated that grantees would receive equipment, licensing, training and technical support for a three year period. Revenues generated by the applicant will be shared with physicians who are selected to participate.

Total project cost is \$3,784,054. Other funds include: \$355,880 OnePartner, \$500,000 participating physicians.

Staff comments & recommendation: Applicant has not yet obtained an IRS determination of non-profit status, and therefore alternatively proposes to designate LENOWISCO PDC as fiscal agent. The TICR General Funding Policies state that funds “should not be used to establish endowments” which has been interpreted to discourage the use of grant funds to create local/regional grant programs (although regional small business financing programs have been capitalized with Special Projects funds). Project’s focus on drug research is similar to other requests that have been considered periodically in Special Projects Committee. **Staff recommends project be referred to Special Projects Committee.**

LENOWISCO, Inc. I

LENOWISCO (#1482) Fiber Backbone Geodesic Mesh – Phase V(b) **\$3,525,000**

Funds are requested to install approximately 88.6 miles of supplemental fiber backbone in the LENOWISCO PDC (*the original request submitted for \$2,775,000 has been increased to add 26 miles of the*

construction described here). This expansion, for which \$2,675,000 is requested, will increase the network's geographical size by 5% or more. Additionally, \$105,000 in funding has been requested to assist with the relocation of the LENOWISCO Rural Area Network primary distribution hub currently located on LENOWISCO property. This relocation is necessary because the property has been sold to Holston Medical Group. Finally, \$295,000 is requested to build in required redundancy needed for the HMG One Partner project. This project requires 100% network connectivity uptime between their offices and the national telecommunications infrastructure. While accomplishing this, the project will also provide funding for the ring and redundancy to the Duffield Technology Park as well as a redundancy ring to and in the Lonesome Pine Business and Regional Technology Park. Of the total amount requested, \$3,375,000 will be used for construction while the remaining \$150,000 will be used for equipment.

Total project cost is \$4,779,400. Other sources of funds include: \$594,400 pending Rural Utilities Service (last mile connectivity in St. Charles, VA), \$660,000 Sunset Digital Communications, Inc. (projected revenue over twelve months beginning 11/1/07).

Staff comments and recommendation: LENOWISCO broadband project(s) have received \$5.4 million of TICR grants to date. Project will extend service to underserved areas and enhance service to two major technology employment locations in Duffield and Wise. **Staff recommends award of the original requested amount of \$2,775,000.**

Mid-Atlantic Broadband Cooperative

Phase 3 Regional Backbone Initiative Expansion (#1493)

\$6,000,000

MBC seeks funding for the following Phase 3 initiatives: (1) building and owning open-access communications towers in selected areas for MBC Members to co-locate broadband services as well as building tributary/lateral fiber builds for large enterprise users requiring direct connections to MBC members, with members providing 5% to 15% of the total capital cost of the fiber access builds; (2) installing connectivity and building a node facility in Cumberland County in addition to constructing backbone extensions from the existing Rocky Mount node (Route 220) to the Boones Mill area to allow for broadband expansion and carrier interconnection for enhanced access into the Roanoke market. MBC also plans to expand the core long-haul network (Atlanta to Ashburn) further into Southside and Southwest Virginia by allowing all TICR Technology grantees to acquire transport for their network and their customers into Equinix-Ashburn, McLean (National Lambda Rail/Internet 2) and any major carrier network from Atlanta to Washington DC. Additionally, MBC will install its network on an acquired fiber route from Dinwiddie/Petersburg to Equinix-Ashburn thereby providing a diverse high-speed network from Northern VA to Southside; and (3) developing an outreach campaign in the Greensboro/Piedmont Triad and Research Triangle Park region to showcase the benefits of the network and of doing business in Southside Virginia.

Total project cost is \$6,000,000. Other funds include \$200,000 - \$500,000 from MBC members on a project by project basis for extending the network to MBC access points.

Staff comments and recommendation: Prior broadband grant awards to MBC include a cumulative total of \$30,897,00 (FY04-06) for planning, design, construction, inspection, installation, management, maintenance, marketing and operations of the fiber optic backbone network for Southside Virginia with a 4% grant balance remaining; \$1,000,000 FY07 award to implement last-mile demonstration projects in five Southside tobacco region communities (Altavista, Appomattox,

Brookneal, Lawrenceville and Stuart) with a 98% grant balance; \$366,200 awarded in FY08 on behalf of the Town of Blackstone for construction of a fiber backbone from the County's Industrial Park through the Town's downtown which connects two nodes on the MBC network (no funds expended to-date). **Staff recommends award of \$5,875,000 excluding marketing services (which are ineligible for restricted funds and would require a separate grant).**

Patrick County Economic Development Authority

Patrick County DSL Initiative (#1504)

\$920,000

Funds requested to purchase equipment upgrades for Embarq that will make 17 telecommunications substations DSL-enabled. Embarq will own the equipment and be responsible for maintenance, future upgrades, billing and account servicing related to the project. The DSL project will bring high-speed internet service to 2,212 lines in Patrick County serving both residential and business customers, particularly those in the outlying areas of Ararat, Meadows of Dan, Stuart, and Woolwine. Stuart is currently being served through the MBC Last Mile Pilot Project. The project would assist in attracting employers requiring high bandwidth such as call centers, existing small businesses, residents wishing to telecommute to work or enroll in online classes, and cellphone users. Based on VEC data, the County anticipates that the project will create 48 new entrepreneurial jobs over three years as well as attract a small inbound call center that would employ 30-50 employees with wages averaging \$9.00-\$10.00 per hour plus benefits.

Total project cost is \$1,030,000. Other funds include \$10,000 Patrick County for equipment upgrades; \$100,000 Embarq for various project expenses (DLC upgrades, power pedestal upgrades, span repeater housing upgrades, cross-connect upgrades, etc.).

Staff comments and recommendation: Project would expand DSL availability to an additional one-fourth of the County's households and businesses, but would set a precedent in using public funds for private provider's equipment, without allowing other providers open access to the equipment. A previous TICR-funded project to study a county-wide wireless system (\$40,000 in FY06) is not referenced. Market demand study and information on pricing and level(s) of service have not been provided. A performance agreement under consideration is modeled on MBC's last mile provider demonstrations (Embarq is a provider in the MBC demonstrations). Agreement must establish public purpose for providing 90% of project funding to a private company. **Staff recommends no award.**

Scott County Telephone Cooperative

FTTP – Scott County, VA (#1489)

\$2,958,600

Funds are requested to construct a FTTP project in Gate City, allowing SCTC to build an additional Fiber Optic Gigabyte Ring to serve 650 locations on the east side of Gate City and the surrounding area with high speed broadband "Quadruple Play" service. The project will also provide SCTC with multiple Gigabyte Rings in Gate City for redundancy while connecting to their network on the eastern boundary of the fiber project to give additional redundancy to the FTTP network and to SCTC's existing network.

Total project cost is \$3,218,600. Other sources of funds include: \$260,000 SCTC working capital.

Staff comments and recommendation: Applicant previously received an FY06 grant of \$3.3 million for fiber construction in Gate City, from which a \$1.2 million balance remains available. **Staff recommends no award.**

Scott County Telephone Cooperative
FTTC – Scott County, VA (#1494)
\$3,312,788.58

Funds are requested to pay the interest payments on a \$11,150,395 loan from the Rural Utilities Service which the cooperative is using to upgrade their existing network to a fiber optic network providing “Triple Play” services of voice, video and high speed internet. Currently SCTC has 6,500 access lines covering 450 miles of territory and presently has 800 new video and 700 new high speed internet customers. It is estimated that it will take at least 2 more years to complete all the upgrades to the network and approximately 3-5 years to complete the customer installations. The Rural Utilities Service loan has 12 years remaining on the term with an interest rate of 4.5%. Currently the loan has a balance of \$6,632,914.08 with an interest payment of \$25,314.01 monthly totaling \$303,768.12 annually. When the network upgrades are complete the interest payments will be \$37,031.78 monthly totaling \$444,381.36 annually. Eliminating the interest payments on the loan will allow SCTC to expand their services to other parts of the county while leveraging the investments they have already made to their network.

Total project cost is \$14,463,183.58. Other sources of funds include: \$11,150,395 Rural Utilities Service.

Staff comments and recommendation: Interest payments or any retirement of debt is an ineligible use of restricted funds. **Staff recommends no award.**

University of Virginia’s College at Wise Foundation Inc.
VoIP Implementation at UVA-Wise (#1500)
\$798,225

Funds requested by the nonprofit foundation for equipment and personal services to replace the University’s copper-line telephone system with a broadband telephone network that would allow Voice over the Internet Protocol (VoIP). The system would connect to the LENOWISCO broadband backbone, providing direct links to UVA in Charlottesville and to UVA-Wise programs at the Russell County Technology Center in Lebanon. The system would allow enhanced videoconferencing and data transmission, as well as a campus-wide security alert system.

Total project cost is \$942,845. Other funds include: \$5,000 for VoIP conference; \$139,620 UVA-Wise in-kind staff support.

Staff comments & recommendation: Project would not be eligible for restricted funds due to Related Party benefits accruing to the University as the primary user. Previous grant of \$550,000 in FY06 assisted UVA-Wise in enhancing on-campus technology infrastructure and connections to Russell County. Use of network for phone service, television, campus announcements and security are not priorities for TICR funding, and outcomes measures (e.g. phone usage statistics) are not consistent with the Technology program. **Staff recommends no award.**

Southwest Economic Development Committee referred the following grant to Technology Committee on October 4.

Norton Industrial Development Authority
Downtown Broadband Redundant Loop & Hotel Norton Buildout
\$159,360

The IDA seeks to develop a broadband loop within its central business district (\$23,360 requested) and to build-out unfinished space at Hotel Norton as meeting and teleconference space. TIC funds will be used for construction and infrastructure installation.

Total project cost is \$184,360. Other funds include \$25,000 Norton IDA (committed).

Revised Staff comments & recommendation: If a sufficient demand case can be made for the broadband loop it should be built and operated by Lenowisco Inc. I as part of its system, which has existing fiber and equipment in the Hotel. Mezzanine improvements to Hotel are not consistent with Technology Committee objectives. **Staff defers to consensus of the Technology Committee. ■**