Executive Summary

Problem: Over half of the rural telcos in the US are not providing fiber lines (2008 survey by National Telecommunications Cooperative Association 'NTCA' shows only 44% providing FTTH or FTTC.) While some type of high-speed service is available in all zip codes, over 62% of zip codes have no fiber-based service available. (As of June 2008, according to material from the FCC.) These areas without fiber are largely the rural, sparsely populated areas served by small telephone companies. In comments before the FCC, the NECA (National Exchange Carrier Association) reported from their 2003 Access Market Survey that over half of their surveyed companies served over 200 square miles each and that they typically averaged 10 or less subscribers per square mile. More recent data confirms this picture.

According to information published in June 2009 by the industry magazine, Broadband Properties, there are 681 providers of Fiber services in the US other than the three RBOCs. However, these 681 providers average only 1653 subscribers each and account for only 25% of the fiber lines served in this country. To summarize the problem, much of rural America is without fiber-based service, in spite of the often-quoted information that all zip codes have high-speed service. When surveyed the rural companies say that the number one reason they are not deploying fiber is cost of deployment. The Recovery Act should provide the funds to greatly alleviate this problem, however actually achieving the fiber development will still face hurdles. One of those hurdles is the need for adequate planning (business and technical) before committing to the details of a fiber project. Making the decision to deploy advanced services via fiber facilities is a very involved undertaking. It requires making many decisions in advance both service and business related. There are a number of basic architectures from which to select; each with its own service capability suite; and with its own set of cost characteristics (both first cost and life costs.) These decisions need to be made by the service provider management considering the best alternatives for their customers and for their company. However, they do not have the staff to provide the kind of technical/business planning advice they need. These staffs are only found in the larger telcos, mostly in the RBOCs, and with some vendors. Without proper planning, many missteps can occur, requiring costly and service delaying re-dos, or even complete project abandonment. Solution: The solution proposed by this project is to develop a Planning Guideline for the small telco (or other broadband access provider) that does not have the benefit of a strong technology/business planning organization. It is intended to provide the necessary background so that the owner/manager can make informed choices in developing overall plans for the deployment of Advanced Architectures in the Access Plant area. It is anticipated that this planning tool will be provided by the Agriculture Department to those entities winning proposals for development of projects under the Broadband Infrastructure Applications awards. The strategy is to design and write an access fiber broadband planning guideline designed specifically for use
by the small rural telco (or other provider) owner or manager. The guideline will be in workbook fashion that has summary points and decision point identifications at the end of each chapter. The guide will be a self-taught primer for planning fiber deployments. Areas to be included are: 'Description of Various Broadband Architectures' 'Traffic Capacity And Service Possibilities Of Each Architecture' 'Economics Of Architectures' 'Economics Of Changing From One Architecture To Another' 'Impact Of Low Density (Rural) On Economics And Operations' 'Components Of Each BB Architecture' 'Vendors Of Each Component' 'Description Of What The "Biggies' Are Doing (Bells)' Area to be Served: The area served is rural America. It is estimated that as many as 2,142,000 new subscribers to fiber-based broadband can be added. Qualifications The two professionals involved in this project are Keith Brinksman and Clifford Holliday. Both have long backgrounds in telecommunications, planning, engineering, management and consulting. Mr. Holliday will be the principal writer of the Planning Guideline. He has been involved (planning, engineering and operations) in improving access plant deployment since the mid 1970's. He has been involved in virtually every major advance in that area ever since, including supervising some of the foundation work that led to today's deployment of fiber. He writes (and has for ten years) a quarterly newsletter on High-Speed Access. (Published by Information Gatekeepers, Inc.) He has written numerous articles and major reports that have been published in the trade press over the last three decades, on the subject of access plant. Jobs to be Saved or Created Obviously this is an estimate, but from the authors' experience, it takes approximately 15 hours to install and cutover a FTTH line. We are estimating 2,142,000 new lines could be impacted by this proposal, which gives 16,000 years of labor. Thus this proposal could help create (or save) 16,000 jobs for a year. This is in line with another estimate circulating in the trade press of 10,000 jobs associated with the Recovery Act Infrastructure projects. Proposal Cost Total cost of this proposal is $625,000