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FISCAL IMPACT REPORT

ORIGINAL DATE 2/3/06

SPONSOR Picraux LAST UPDATED _____ HB 486

SHORT TITLE UNM DUAL FIBER OPTIC INFRASTRUCTURE SB _____

ANALYST Goodrich/Sánchez

APPROPRIATION (dollars in thousands)

Appropriation		Recurring or Non-Rec	Fund Affected
FY06	FY07		
	4,000.0	Non-recurring	General Fund

(Parenthesis () Indicate Expenditure Decreases)

Duplicates HB 486.

SOURCES OF INFORMATION

LFC Files

Responses Received From

Higher Education Department (HED)
Office of the Chief Information Officer (OCIO)
General Services Department (GSD)

SUMMARY

Synopsis of Bill

House Bill 486 appropriates \$4,000,000 from the general fund for the expenditure in fiscal years 2006 and 2007 to the board of regents of the university of New Mexico for the purpose of implementing a dual fiber optic network infrastructure at the university of New Mexico related to the national LambdaRail (NLR) project for expenditure during fiscal years 2007 and 2008.

FISCAL IMPLICATIONS

The appropriation of \$4,000,000 contained in this bill is a non-recurring expense to the general fund. Any unexpended or unencumbered balance remaining at the end of fiscal year 2008 shall revert to the general fund.

According to LFC files, LambdaRail is a consortium of 15 members. Each member has committed to pay \$5,000,000 over five years to be a member. To date New Mexico has contributed \$2,000,000, the general fund has paid \$1,000,000 and the universities have contributed \$1,000,000; yet no entity in New Mexico has derived any benefit from LambdaRail because it is not operational even though it was scheduled to be operational by the summer of 2005.

UNM proposes to create a non-profit corporation to charge entities for use of LambdaRail. The state would also be charged for using LambdaRail even though it would be the major contributor. It appears that K-12 and the state would not be able to use LambdaRail unless the network traffic deals with research. There is one access point in New Mexico – Albuquerque; and one access point in El Paso, Texas from which to access LambdaRail. There will be no other access points, all traffic will have to go through Albuquerque. The only way the other research universities will be able to access LambdaRail is through the Rio Grande fiber which is costing New Mexico State (NMSU), New Mexico Institute of Mining and Technology (NMIMT) and GSD \$2,500,000 to lease fiber optic lines from Las Cruces to Albuquerque with an option to extend the lines to Raton and for equipment.

The project appears to be a duplicate of the Rio Grande Fiber, a consortium of NMSU, NM Tech and GSD project a subproject of Wire New Mexico, and of the fiber ring GSD has already designed and is in the process of installing. Rio Grande fiber leases fiber from Level 3 who leases it from Qwest long distance. NLR will also lease fiber from Level 3, but it is located on the opposite side of the railroad tracks.

According to the HED, the Governor and legislature in 2004 recognized the need for high speed communications by funding the first year of New Mexico's participation in NLR. This \$1,000,000 appropriation was the first of five yearly payments that would allow New Mexico to plug into this national optical network. So far, the one-year subscription was a partial payment of five years, or \$5,000,000. The UNM on behalf of the state is a member of NLR. The NLR membership fee is \$1,000,000 per year.

According to LFC files, in 2005, no general fund was appropriated so UNM used \$400,000 of its internal funds, and NMSU and NMIMT each used \$300,000 toward the second year membership fee. Additionally, the \$1,000,000 million annual membership fee is a perpetual fee that will have to be paid with general fund and the proposed non-profit corporation to run New Mexico's LambdaRail might not cover the membership fee.

SIGNIFICANT ISSUES

According to the OCIO, neither UNM nor HED submitted a business case or an appropriation request to the OCIO for analysis and recommendation. Moreover, it is unclear from the language of the bill how the appropriation or proposed infrastructure is in line with the State's IT Strategic plan and how the infrastructure will merge with the GSD existing and future infrastructure.

According to the HED, NLR will enable New Mexico's research institutions to more effectively access needed information, communicate with each other and be a part of the global research community. Vital links to the private sector that are an integral component of many research efforts will also be created. The current statewide collaborative effort to acquire fiber up and down the Rio Grande corridor will then allow high speed connection to NMIMT, NMSU and the Santa

Fe metropolitan area. Continued participation in the NLR will be a direct and relatively immediate benefit to all the state's research efforts, as well as provide a networking platform which will help grow bandwidth intensive industries, especially film and media. Applications such as Border Monitoring, Large Arrays, Digital Film and Tele-Medicine can also use this technology to each have their own network across the same fiber pair.

According to the GSD, oversight by the state Chief Information Officer (CIO) and the Information Technology Commission (ITC) should be required to ensure compatibility with similar government-funded network projects. The proposal is ambiguous regarding the location(s) of the infrastructure build. GSD is implementing a project to establish fiber capacity in many locations in Albuquerque, specifically in the downtown area. If these routes and locations overlap, there may be some degree of redundancy. In addition GSD questioned whether the technical design is documented, how the network will be used, who would be the beneficiaries, and what protocol will be used to manage the network.

According to the OCIO, NLR is a major initiative of United States research universities and private sector technology companies to provide a national scale infrastructure for research and experimentation in networking technologies and applications. It appears that this funding request will provide New Mexico research institutions (UNM, NMSU, NMIMT) access to collaborate with research entities in the United States through UNM.

According to UNM's IT Plan, \$1,000,000 is to reimburse the three universities their prior year's investment. The IT Plan also includes a project for a fiber ring that will go around 505 Marquette, 401 Broadway and 104 Gold for \$992,000 that appears to duplicate work underway by GSD.

PERFORMANCE IMPLICATIONS

According to GSD, if the project were to conflict with state network architecture requirements of the state CIO and ITC, there may be a negative impact on GSD operations.

ADMINISTRATIVE IMPLICATIONS

According to the HED, the management of the New Mexico LambdaRail initiative could be done by an independent non-profit organization board of directors, with memberships by the three New Mexico research universities.

TECHNICAL ISSUES

According to the HED, the current statewide collaborative effort to acquire fiber up and down the Rio Grande corridor will then allow high speed connection to NMIMT, NMSU and the Santa Fe metropolitan area. The technology will be "plugged into" by leveraging existing technology initiatives.

OTHER SUBSTANTIVE ISSUES

According to the HED, to encourage participation, a cost effective pricing strategy will be implemented that will cover the annual membership fee and the operational costs. The pricing strategy is to have affiliates pay a fee according to a proposed fee structure. If an affiliate is also a

connector, that is an organization who provides connectivity to other affiliates, a bandwidth connector fee would be assessed. This approach allows affiliates to pay for the bandwidth level that they need while allowing New Mexico to increase the bandwidth of the NLR backbone connection as needed.

According to LFC files, the state would also be charged for using LambdaRail. Additionally, NLR can only be used for research purposes.

ALTERNATIVES

According to GSD, an alternative could be to lease from a local telephone company or establish partnerships with GSD to maximize capital infrastructure and minimize duplication of effort and expenditures.

Higher education institutions receive indirect cost revenues from federal contracts and grants. This money is unrestricted in the sense that the governing board of the institution has the flexibility to choose which projects are supported with these funds. A great deal of this money is used as seed money to develop new research and public services projects at institutions. A portion of the indirect cost revenue, or earned overhead, is used to support items such as the salaries of the accountants responsible for monitoring the contracts and grants, or for paying utilities and other expenses required to maintain the space where the contract and grant activities are housed.

The higher education funding formula allows institutions to retain 100% of this indirect cost revenue. One of the purposes of retaining these funds is to provide seed money and matching funds for projects such as the one proposed in this bill.

Request that the \$2,500,000 investment by NMSU, NMIMT and GSD be allowed as a property contribution rather than requiring a cash payment.

WHAT WILL BE THE CONSEQUENCES OF NOT ENACTING THIS BILL

The results of not funding this project would be that UNM would lose its seat on the board of directors, its ability to connect to LambdaRail and the \$2.0 million paid to NLR.

According to the HED, the first year's subscription (in 2004) to LambdaRail did not benefit the state without a continued annual subscription to buy membership which costs \$5,000,000. The status will remain the same, and the research universities will continue to operate without the high speed bandwidth.

According to the OCIO, consequence of not enacting this bill would be simply maintaining the status quo.

According to LFC files, state research universities and other institutions of higher learning already use Internet2 for research purposes. Internet2 reaches a far greater number of state locations than will LambdaRail. Not providing additional funds will result in loss of a seat on the national board of directors, the state's initial \$1,000,000 investment and the three research universities' investment.