

Fairbanks Virology Laboratory Replacement

FY2006 Request: \$24,200,000

Reference No: 38900

AP/AL: Appropriation

Project Type: Construction

Category: Health/Human Services

Location: Statewide

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Estimated Project Dates: 07/01/2005 - 06/30/2010

Brief Summary and Statement of Need:

The Alaska Virology Laboratory is currently located in the Arctic Health Research Facility on the University of Alaska Fairbanks campus. A recent report concluded that the space is small, old, and lacks the necessary physical plant requirements for this type of facility and that it needs to be replaced. This request would provide for the planning, design, and construction of a new state-owned laboratory that would be located on the university campus in Fairbanks.

Funding:	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Total
COPs	\$24,200,000						\$24,200,000
Gen Fund							\$0
Total:	\$24,200,000	\$0	\$0	\$0	\$0	\$0	\$24,200,000

<input type="checkbox"/> State Match Required	<input checked="" type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

Operating & Maintenance Costs:

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	125,000	0
One-Time Startup:	0	
Totals:	125,000	0

Additional Information / Prior Funding History:

This is the first year of the project.

Project Description/Justification:

The Alaska State Virology Laboratory (ASVL) is currently located in the Arctic Health Research Facility on the University of Alaska campus in Fairbanks and occupies approximately 6,500 useable square feet and shares an additional 5,000 square feet with the university. The lab employees 14 people that provide state-wide viral diagnostic services that aid in the diagnosis and prevention of human disease such as human immunodeficiency virus (HIV), hepatitis (A, B, C, and D), adenoviruses, rabies, rubella, herpes, influenza (A and B) and arthropod-borne viruses. This is the only viral laboratory in Alaska. It is responsible for providing assistance and reference services to other laboratories in the state. In addition, this office is the contact for the State Rabies Lay Vaccinator Program, which provides training and standardization in the delivery of anti-rabies vaccine.

The Department contracted with the Association of Public Health Laboratories (APHL) to analyze and make recommendations for the labs in Anchorage and Fairbanks. Their report was completed and submitted to the Department in August 2004. The report concluded that the Fairbanks lab is small, old, unsafe and lacks security and the physical plant requirements necessary for a virology laboratory. The lab needs to be replaced. Three options were considered for continuing virology lab services:

1. Construct a new lab in Fairbanks
2. Add to the existing lab in Anchorage.
3. Renovate the existing space.

Each option was carefully analyzed for cost and programmatic benefits. The consultant recommends that a new virology lab be constructed, and that it be located in Fairbanks on the university campus. The Division of Public Health and the Department support this recommendation.

The Department and the university have negotiated aspects of the project during the past year. The university has agreed to donate land, through a long-term lease agreement, in exchange for the Department constructing a new virology laboratory. There are numerous benefits for both the Department and the university to form a strategic alliance for this project.

For the State, the Department will be able to retain its valuable human resources. The scientific and technical capabilities of these individuals are scarce and would be lost by relocating the lab to Anchorage. The university is expanding its biomedical research program on infectious diseases and sees strong potential for collaboration with the state-operated virology lab. The lab would be connected to the Biological Research and Diagnosis facility on university land. The university has already dedicated \$50,000 of their own money and staff to planning of the state-operated virology lab.

The Department has consulted with a private estimating firm that specializes in space validation and performing cost analysis on laboratory spaces. The cost analysis concludes that the project cost of the lab will be approximately \$24.2 million and that an estimated 21,000 useable square feet are necessary to continue virology laboratory services. This data has been reviewed by the Department of Transportation and Public Facilities (DOT/PF) in Anchorage and they concur with the cost of the project, based on the rate at which construction costs are currently rising. The cost includes design, construction, equipment, selling of the bonds and project management.

The proposed lab would be located on the west ridge immediately adjacent to and connected to the Biological Research and Diagnosis facility. The Department currently pays \$150,000 annually to the university for building operational expenses including utilities, custodial, maintenance and repair, renewal and replacement reserve, data line maintenance, landscaping and snow removal. With the new facility, this cost will increase to an estimated \$275,000 annually, which will result in a net operating increase of \$125,000 annually.

The square footage is increasing for several reasons:

- ? The existing lab is substantially undersized for the number of staff and the functions performed;
- ? The existing lab shares an additional 5,000 square feet with the university;
- ? Space requirements for lab functions have increased.

The lab in Fairbanks provides an array of virological services that is perhaps among the best in the country. It is the only full service virology laboratory in the state. Because of the unique public health challenges in Alaska, this broad array of services, especially in the areas of molecular virology and viral isolation and identification, is vital to disease surveillance and prevention programs at the state and national levels. As a case-in-point, the extensive Alaska State Virology Laboratory (ASVL) surveillance and characterization of influenza virus strains emanating from countries in the western Pacific basin every year contributes valuable and unique information to the influenza monitoring programs of the Center for Disease Control and Prevention and the World Health Organization.

There is a good relationship between the services being provided and the public health programs that are supported by the laboratory services conducted at both the Anchorage and Fairbanks facilities. This also reflects well on the efforts that the laboratory administration and senior management make to fully communicate and work with the various programs within the Division of Public Health and external partners such as the University of Alaska-Fairbanks, University of Alaska-Anchorage, the Arctic Investigation Unit, the Native Alaskan Health Center, tribal health organizations, the Medical Examiner's Office, and various military installations.

Diagnostic virology services are an integral part of Public Health. The Center for Disease Control and Prevention document, *Core Functions and Capabilities of State Public Health Laboratories*, specifically mentions the importance of virology. It is important to note that all 50 states have a state-operated virology laboratory.

Alaska has the highest rate of animal rabies in the nation. Constant exposure of dogs to Arctic and Red Fox, combined with intimate human interaction, put the public at high risk for rabies. Hardly a week goes by without a necropsy procedure being performed because of human exposure to a suspect rabid animal. This is an emergency procedure. Delay in diagnosis requires painful and expensive post-exposure treatment, and in many cases, air evacuation from rural

areas to a hospital intensive care unit in Anchorage. Performing these necropsies out-of-state introduces several days of delay which could have fatal results to the infected person.

The Alaska virology laboratory participates as a sentinel laboratory in the World Health Organization Influenza Surveillance System. Since the "flu" usually travels from east to west, Alaska's close proximity to Asia results in Alaska seeing new strains of flu viruses significantly sooner than the rest of the nation. In fact, Alaska is an essential element in establishing what serotypes of flu should be included in the yearly makeup of the flu vaccine. Without Alaska's input, there could be significant delays in making up the yearly flu vaccine. Additionally, Alaska has a year-round flu season because of tourism. The ability to easily and swiftly identify sick passengers on cruise ships lowers the overall incidence of flu, both at sea and on the shore. The cruise line industry has more than once expressed its appreciation for the services of our virology laboratory. Also, the intestinal disease caused by the Norovirus has a large impact on the cruise industry. Our ability to detect and identify this agent reduces morbidity of both tourists and Alaska residents.

Hepatitis is also a significant public health problem in Alaska. These diseases are costly to diagnose and treat. Only through a concerted public health effort can the consequences of hepatitis be reduced.

Finally, biological terrorism cannot be ignored. Smallpox has once again become an issue. Although smallpox diagnosis is made in the Anchorage Bio-Safety Laboratory 3 facility, diagnosis of complications of vaccination and look-alike diseases (measles, herpes, chicken pox, for example) are routinely made at the Fairbanks virology facility.

The loss of a functioning virology laboratory in Alaska would have a significant impact on the health of the population. Outsourcing these services is not possible. The 1994 *State of Alaska Public Health Laboratories Strategic Plan Final Report* concludes that the testing provided by the Public Health Laboratories cannot be outsourced due to increased cost and lack of private sector willingness to take on these responsibilities. Additionally, testing would have to be done in specialized laboratories in the lower 48 states.

The Department has pursued the use of other funding sources to fund this project, but has not been successful. The bio-terrorism funds that the Department receives cannot be used for new construction. These federal funds are restricted to additional costs of operations for providing bio-terrorism services.

Department's Mission: *To promote and protect the health and well being of Alaskans.* This project supports the Department's mission by allowing the virology lab to continue operations. The services performed at the laboratory promote health through the diagnosis and prevention of human disease.