

**NORTH DAKOTA STATE UNIVERSITY**

June 17, 2010

**902.1 and 902.3 - Requested Action:** Ratify Chancellor's action to seek Budget Section approval to accept and spend grant/contract funds for the construction of an **addition to the Research I** facility, including equipping costs, of \$29,361,750. Furthermore, seek SBHE authorization to proceed with Phase I construction (\$9,011,750) and \$13,700,000 in equipment to be moved from Research 2.

**Background:**

NDSU is proposing to build a research facility (adjacent to the existing Research 1 building) with the primary function of expanding research, development, and technology transfer capabilities in core competency areas with demonstrable success and that have significant growth potential for commercialization. NDSU has significant capabilities in materials research and development, particularly in coatings and polymeric materials, advanced materials for electronics and energy applications. In addition, NDSU's demonstrated and proven capabilities in applying combinatorial sciences to research and development of polymers and coatings leads us to apply them to prime new areas such as photovoltaics, catalysis, and electronics. The Combinatorial Materials Research Laboratory (CMRL) at NDSU is one of the most well-equipped academic laboratories in the world for conducting polymer and surface coating research using a combinatorial approach. The CMRL at NDSU houses automated, high-throughput instrumentation built in-house by engineering staff at NDSU or purchased from vendors. This capability is of high interest to federal and private sector partners; however, expansion of these activities requires additional versatile wet lab space. Our current infrastructure is at capacity; therefore, additional space is critically needed.

**Project Description:**

The new space (approximately 35,000 – 40,000 sq. ft) will provide the capabilities and resources to advance technology efforts with our Centers of Excellence program partners and federal program partners as well as provide an essential platform to transition a larger number and broader spectrum of technologies derived from this research and development to the marketplace. This facility will enable new job creation and allow NDSU to expand research and development relationships with the private sector, thereby, providing opportunities for growth and sustainability of the Centers of Excellence programs. This facility will house some existing programs that are on a growth path (i.e. CMRL) and therefore, several existing pieces of movable research equipment will be relocated to the facility. It is also anticipated that new programs will be developed, so we are planning to add additional research equipment with future grants and contracts. Estimates of both existing and future research equipment are included in the cost breakdown below.

Research-intensive space requires versatility as new programs and collaborations are established. The facility will be designed to provide as much flexibility as possible, thus providing the base infrastructure to "plug-in" new equipment as new research program funding is procured.

**Project Rationale:**

The project is consistent with current and future requirements to meet the goals for increasing research and development activities that contribute to economic development and provide important "hands-on" training opportunities for our students. It is also synergistic with the North Dakota Economic Development Centers of Excellence program, as the infrastructure's purpose is to address important elements of the ED-COE Legislation, including:

- Using university research to promote development of new products
- Leveraging other funding
- Promoting the commercialization of new products
- Promoting job creation

This facility will provide the infrastructure and capabilities to advance technology for purposes of developing commercialization opportunities. NDSU has built productive relationships with the private sector, particularly through the ED-COE program, and will seek to expand these collaborations through this infrastructure effort.

**Estimated Project Costs:**

**\$29,361,750 (includes est. of \$13.7M in existing equip)**

The proposed budget, developed as part of the pre-planning for this project, is based on estimated costs for constructing an expansion to the Research 1 facility. This facility will consist primarily of wet lab space with associated office space to

support the R&D being undertaken in the building. The estimated budget includes general construction cost estimates, the mechanical, electrical, and fire protection needed for research-intensive space as well as architectural design, contract, and administration fees.

Here is a general breakdown of such costs with approximate dollar figures:

<b>Planning, Permits and Insurance</b> (design and preplanning costs, architect and engineer fees, permits, insurance, commissioning)	\$621,750
<b>Land/Building Preparation and Purchase or Donated Costs</b> (site survey and soil testing)	\$338,000
<b>Demolition and Disposal</b>	\$32,000
<b>Construction</b> (foundation and building construction, infrastructure and utilities, mechanical and electrical)	\$7,542,000
<b>Furniture and Equipment</b> (fixed or movable appliances, furniture and equipment) Emergency Generator (\$225,000) Moveable research equipment/office furniture: Estimate of existing equipment to be moved from the Research 2 facility (\$13,700,000) Estimated new equipment to be purchased with existing grant and contract funding (\$1,600,000) Estimated future fit-out/research equip/furniture to be purchased with grant/contract and local funding (\$5,000,000)	\$20,525,000
<b>Other third party costs</b>	
<b>Institutional work</b> (value of work completed by institution staff and billed to the project)	
<b>Contingency</b>	\$253,000
<b>Hazardous Material Abatement</b>	
<b>Other</b> (please describe) Cost for moving furniture to R1 and purchase of general building and maintenance supplies (start-up)	\$50,000
<b>TOTAL</b>	<b>\$29,361,750</b>

#### **Funding Sources:**

##### **Construction:**

Preplanning Costs (paid for from local fund sources – F&A cost recovery)	\$ 11,750
North Dakota Economic Development Centers of Excellence Enhancement program (ED-COE) - awarded in December 2009 for Research I expansion	\$4,000,000
National Institute of Standards and Technology (NIST)-federal appropriated earmark	<u>\$5,000,000</u>
	\$9,011,750

##### **Programming funds for new equipment purchases:**

Future new or expanding programs from federal, state (i.e., COE) and/or private sector projects	\$5,000,000
Department of Energy grants that are either in place or in the process of being awarded	\$1,600,000
Estimated existing equipment to be moved from Research 2	\$13,700,000
Other (see above)	<u>\$50,000</u>
	\$20,350,000

**TOTAL            \$29,361,750**

(If NDSU is unable to complete all of the labs, future fit out will be accomplished through grant/contract and possibly, local funds. These funds would be from generated F&A.)

#### **Estimated Annual Operating Costs and Related Funding Source**

Operating costs are estimated at approximately \$350,000 to \$375,000 annually and will be funded by local (indirect cost recovery) , and possibly, grant/contract funds.

#### **Estimated Project Timeline and Completion Date:**

Estimated completion/occupancy – Fall 2012

NDSU is requesting authorization to proceed with construction (\$9,011,750) and equipment (\$13,700,000) to be moved from Research 2 to Research 1 now, and will return to the SBHE for additional authorization for other remaining components when more details and funding sources are available.