

December 2005

## SUMMARY OF 2005 CENTERS OF EXCELLENCE APPLICATIONS

The 2005 Legislative Assembly approved Senate Bill No. 2032 establishing a centers of excellence program. The Centers of Excellence Commission created by the bill is responsible for the application process and for making funding award recommendations for commission-approved applications for centers of excellence.

The Centers of Excellence Commission reported to the interim Economic Development Committee in October 2005 that the two primary benefits of a center of excellence are:

1. Job creation and economic growth for the state of North Dakota; and
2. Excellence in education and training which fosters a highly skilled workforce.

This memorandum summarizes the statutory **requirements and other considerations** contained in North Dakota Century Code Chapter 15-69 related to centers of excellence as well as additional information requested by the Emergency Commission. Upon approval of the application by the Centers of Excellence Commission, the State Board of Higher Education, North Dakota Economic Development Foundation, **and Budget Section (with input from the Emergency Commission)**, an entity may be provided a funding award and be designated as a "center of excellence."

### APPLICATION SUMMARIES

The 2005 centers of excellence applications approved by the Centers of Excellence Commission totaling \$8,950,000 are listed below, along with statutory provisions and summary information for each of the applications.

Description	Project - Application Summary			
	1566 - Bismarck State College Energy Center of Excellence	1567 - Lake Region State College Dakota Center of Optimized Agriculture	1568 - University of North Dakota National Center for Hydrogen Technology	1569 - North Dakota State University Center for Advanced Electronics Design and Manufacturing
Emergency Commission Request No./Project				
Center of excellence funding request	\$5,800,000	\$658,825	\$2,500,000	\$4,585,000
Proposed center of excellence funding award	\$3,000,000	\$450,000	\$2,500,000	\$3,000,000
<b>Requirements</b>				
A center must be an institution of higher education or a nonprofit university- or college-related foundation under the control of the Board of Higher Education (Section 15-69-02(1)).	Bismarck State College Foundation	Lake Region State College	University of North Dakota Energy and Environmental Research Center	North Dakota State University
The institution or nonprofit foundation must be working in partnership with the private sector (Section 15-69-02(1)).	Great River Energy Basin Electric Reliant Energy MDU North American Coal Westmoreland Coal Minnesota Power/BNI Coal	Agri ImaGIS Total-Crop Farming Systems Summers Manufacturing	ePower Kraus Global, Inc. Basin Electric Phoenix Industries Xcel Energy	Alien Technology Crane Aerospace and Electronics Clinical Supplies Management
A center shall use funds awarded to enhance capacity, enhance infrastructure, and leverage state, federal,	Funding will be used to construct a facility at Bismarck State College to provide the	Funding will be used for personal and related expenses to develop technology-optimized	Funding will be used to construct a facility at the University of North Dakota to conduct	Funding will be used for personnel and related expenses to research the development of

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and private funds. A center may not use funds awarded to supplant funds for current operations or academic instruction or to pay indirect costs (Section 15-69-05(1)).	capacity and infrastructure for a highly trained and productive energy industry workforce.	products to improve North Dakota agriculture.	research on and demonstrate the usability of hydrogen as an energy source.	highly marketable products involving advanced electronics.
Total matching funds anticipated (\$2 of matching funds are required for each \$1 of state funds) (Section 15-69-05(3)).	\$13,082,000	\$1,317,650	\$14,500,000	\$9,500,000
<b>Major consideration</b> In making funding recommendation and designation determinations, the commission, board, foundation, and Budget Section <b>shall give major consideration</b> to the portion of matching funds provided <b>in cash</b> by the <b>private sector</b> (Section 15-69-05(3)).	Private sector cash \$0 Basin Electric \$2,000,000 Tom and Frances Leach 750,000 Ekberg Johnson family 350,000 MDU 250,000 BSC employees 170,000 MN Power/BNI Coal 150,000 Energy Generation Committee 150,000 North American Coal 100,000 Westmoreland Coal 100,000 <b>Total private cash \$4,020,000<sup>1</sup></b> Other cash Federal funds \$5,337,000 State funds 800,000 City funds 500,000 Total other cash <u>\$6,637,000</u> Total cash \$10,657,000	Private sector cash \$0 All matching is in kind.	Private sector cash \$0 Texas Railroad Commission Consortium \$240,000 Air Products and Chemicals 85,000 Xcel Energy 1,250,000 Chippewa Valley Ethanol 40,000 <b>Total private cash \$1,615,000</b> Other cash Federal funds <u>\$5,775,000</u> Total cash \$7,390,000	Private sector cash \$0 Other cash Federal funds \$6,500,000
<b>Other considerations</b> (Section 15-69-04(3)) In deciding whether to approve or disapprove an application, the commission <b>is to consider</b> whether the center will:				

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Use university or college <b>research</b> to promote private sector <b>job growth</b> and expansion of knowledge-based industries or use university or college research to promote the development of <b>new products, high-tech companies, or skilled jobs</b> in this state	Training available from Bismarck State College is expected to allow energy companies to construct new or <b>expand</b> their current <b>power plants</b> and <b>increase</b> their <b>workforce</b> .	College and private sector <b>research</b> is expected to promote the development of <b>new products</b> , provide a platform for <b>new businesses</b> , and <b>create jobs</b> .	By <b>developing</b> hydrogen technologies, the energy and agricultural sectors have an opportunity for significant <b>job growth</b> as <b>new technologies</b> are commercialized to produce hydrogen.	The center of excellence <b>design</b> and <b>development</b> activities are expected to allow for <b>business expansion</b> for advanced electronics design and manufacturing and result in <b>new products</b> being developed.
Create high-value private sector employment opportunities in this state	Creation is indirect as Bismarck State College training is expected to provide employees to allow energy companies to expand their workforce - 3,350 new construction jobs and 973 permanent jobs projected.	Jobs are expected to be created to design software components, integrate hardware components, design and manufacture equipment, and to provide consulting and education services.	New private sector-equivalent highly technical jobs (50) are expected to be created at the Energy and Environmental Research Center, with an additional 50 private sector jobs.	Jobs are expected to be created relating to expansion of product lines, new manufacturing contracts, and commercialization of new technologies and products.
Provide for public-private sector involvement and partnerships	A number of public/private partnerships are identified.	A number of public/private partnerships are identified.	A number of public/private partnerships are identified.	A number of private sector partners are identified.
Leverage other funding	The center expects to attract federal and private grant funds, with \$9.5 million identified.	Federal grant applications are pending and licensing and fee revenue will be generated.	The center anticipates a total of \$50 million of funding will be available in the next five years for hydrogen-related opportunities.	Federal grant funds have been received and additional grants are anticipated.
Increase research and development activities that may involve federal funding from the national science foundation experimental program to stimulate competitive research	Two "innovative and cutting-edge" research projects are identified as being in development--WebLab and fly ash research.	A federal grant application has been submitted.	The center is expected to allow for more specialized work to be conducted enabling the center to obtain federal research funding.	These types of federal grants have been received and are expected to continue.
Foster and practice entrepreneurship	Construction of the center is expected to allow for demonstration of the effective use of coal combustion and recycled materials. Its goal is to commercialize new technological tools and online training materials.	Training provided by Lake Region State College is focusing on entrepreneurship. The center's resources will be used for objectives that target entrepreneurship development.	The center's culture allows each researcher to act as an entrepreneur.	The center is expected to allow student interns to observe and learn the activities involved in technology transfer and entrepreneurship.
Promote the commercialization of new products and services in industry clusters	The center is expected to allow Bismarck State College and North Dakota to be the leader in national and international energy training and to expand the use of fly ash.	Technology-related components and equipment will be developed for use in agriculture.	The center's focus is on producing new technologies for the marketplace.	The center is expected to involve advanced manufacturing and value-added agriculture industry clusters and the marketing of related products.
Become financially self-sustaining	The program is producing training and technology that is	Funding to sustain the program is expected to be provided from	The Energy and Environmental Research Center is currently	The center's initial funding will allow for new industry contacts.

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	marketable. The program anticipates increased tuition revenue, training contracts, product marketing, and private and public funding.	software and other technology licensing fees, training fees, product sales, and federal grants.	self-sustaining and is expected to continue to be.	New revenues will be generated from usage fees and engineering services income, patent licensing royalties, and new federal grant awards.										
Establish and meet a deadline for acquiring and expending all public and private funds specified in the application	Anticipates construction to be completed by December 2007 and all funds to be spent by the end of 2008	A three-year time period is anticipated.	The funding will be spent within two years.	The proposed budget anticipates the funds being spent over a three-year period.										
<b>Responses to Emergency Commission questions</b> The potential new private sector jobs that will be created if your center of excellence proposal is funded, including the nature of the jobs and the number of new jobs.	The center will be directly linked to the creation of 728 new jobs with the average salary of most of the jobs being \$57,000 per year. For the energy industry to expand in North Dakota, there is a need for highly skilled operators that will be trained by this center of excellence.	The center will be directly linked to the creation of 13.5 new jobs and indirectly to an additional 19. The jobs primarily relate to information technology, engineering, and marketing.	The center will result in the creation of 50 new jobs at the Energy and Environmental Research Center and 50 new private sector jobs during the first 5 years and an additional 200 private sector jobs during the following 5 years. The private sector jobs will be with a variety of private sector partners.	The center will result in the creation of 25 highly technical jobs and 25 production level jobs. In addition, 400 to 1,200 new highly technical jobs may be created.										
How any new building that is proposed with the use of the funds will be sustained from a financial standpoint, detailing the costs of sustaining the building and the source of revenue.	The estimated annual operating cost of the new building is \$200,000, including utilities, maintenance, and staff costs for custodial services. All funds required to sustain the building will be from revenues and other sources generated from industry partnerships and government grants.	Not applicable	The Energy and Environmental Research Center charges each of its contracts a facilities and administrative charge which is used to pay for costs not directly related to the research aspects of the contract, including building maintenance, utilities, insurance, etc. The costs of operating and maintaining the new building will be paid from revenues generated from the facilities and administrative charge on research contracts.	Not applicable										
Details concerning the private sector match for each proposal, including description and value of any in-kind match	Matching funds of \$8,745,000 have been acquired through a capital campaign for the center. The energy industry is contributing nearly \$4 million. The only match that may be considered in kind is the contribution of flexcrete and flyash that will be used in the building construction.	Private sector in-kind match: Agrilma GIS - Software/data base manager, operating platform and graphics interfaces, software engineer, and site manager - \$299,000  Total Crop Farming Systems - Zoning software platform, office system support, sensing technology, site management,	Since the application was submitted, additional support for the center has been received. The total of all matching funds includes: <table border="0" data-bbox="1260 1315 1585 1477"> <tr> <td>Industry cash</td> <td>\$11,480,000</td> </tr> <tr> <td>Federal funds</td> <td>10,828,000</td> </tr> <tr> <td>City funds</td> <td>500,000</td> </tr> <tr> <td>Industry in kind</td> <td>652,500</td> </tr> <tr> <td><b>Total</b></td> <td><b>\$23,460,500</b></td> </tr> </table>	Industry cash	\$11,480,000	Federal funds	10,828,000	City funds	500,000	Industry in kind	652,500	<b>Total</b>	<b>\$23,460,500</b>	The private sector in-kind match totals \$3,050,000 and includes: Crane Aerospace - Engineering and technical support - \$1,400,000  Alien Technology - Engineering and product definition personnel - \$750,000  Clinical Supplier Management Inc. - Marketing, technical
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		engineering consultant, and sales consultant - \$302,000  Collaborating partners - Equipment manufacturers, customer applicators with project software, and instructional modules - \$46,000  Public sector in-kind match from nonstate resources - \$670,650	0  In-kind contributions include services and products to test, personnel services, equipment, and electricity.	support, and software development personnel - \$125,000  Phoenix International and Pedigree Technologies - Marketing analysis, technical consultation, and field testing - \$775,000
<sup>1</sup> Additional private sector cash may be provided depending on the actual value of Great River Energy's in-kind contribution. Great River Energy has committed \$1 million of cash and in-kind contributions.				

### APPROVAL PROCESS

In order to receive a funding award and be designated as a center of excellence, each application must:

1. Be approved by the Centers of Excellence Commission - The commission may modify the application request (Section 15-69-02(1)).
2. Be approved by the Economic Development Foundation (Section 15-69-02(2)).

3. Be approved by the State Board of Higher Education (Section 15-69-02(2)).
4. Be reviewed by the Emergency Commission. The Emergency Commission may not approve or deny the application but makes a recommendation on each application to the Budget Section (Section 15-69-02(2)).
5. Be approved by the Budget Section (Section 15-69-02(2)).

Once an application is approved by the Centers of Excellence Commission, the foundation, board, and Budget Section may not modify it. Each entity may only approve or deny the application.