



*To Council
8/20/07*

UF 8/15

May 2, 2007

Mayor Jim Shaw
City of Rapid City
300 6th St.
Rapid City, SD 57701

Dear Mayor Shaw:

The Rapid City Economic Development Partnership, in an effort to secure the relocation of Northrop Grumman Information Technology, Inc. (NGIT) to Rapid City, has offered an incentive of a \$100,000 grant. The grant will be used to assist them in their startup as well as training and orientation of new hires in the Rapid City area.

NGIT has agreed to provide 50 new jobs in the Rapid City area over the next 3 years. These jobs will include software engineers and will utilize graduates from IT programs from local institutions. These quality jobs will provide excellent wages and benefits as well as career opportunities for the people of Rapid City and the Black Hills.

Rapid City Economic Development Partnership requests a grant of \$100,000 to be transferred to NGIT according to the attached memorandum of understanding. As you may imagine this was a highly competitive process and the Opportunity Capture Fund played an important role in our ability to attract this company to Rapid City.

Your early consideration of this proposal will be greatly appreciated.

Sincerely,

Robert P. DeMersseman
President

Proposal to Rapid City Economic Development Foundation

to Support

Research and Development Infrastructure of the

South Dakota School of Mines and Technology (SDSM&T)

The SDSM&T enthusiastically endorses the Black Hills Vision (BHV) strategy to develop a high technology corridor across the Black Hills. To that end, this institution, already known for its excellence in undergraduate Science, Technology, Engineering and Mathematics (STEM) programs, has dramatically increased its graduate, research and economic development profiles. It is now, leading the way towards the creation and evolution of this third leg of the regions economic base.

Over the past fifteen months, SDSM&T has both worked with and profited from its association with the Battelle Corporation. As consultants and “loving critics,” Battelle has illuminated several gaps in our human resource capacity. If filled, we could hasten the development of our elements of the corridor. Given current economic realities and priorities, these gaps will not be easily filled from state, federal or tuition based revenue streams. Hence, we turn to our community partners for support to “jump start” the progress in the regard. With the advice of Battelle and from members of the BHV executive committee, three priority areas have been identified. One-time, multi-year (3) funding is sought to both insure the attraction/recruitment of outstanding talent, as well as to assure the creation of a base of operation that will assure sustainability.

Specifically, SDSM&T proposes:

I. One-Time, Multi-Year Funding for Full-Time SDSM&T Polymer and Composites Laboratory Director (1 FTE, Year 1 \$134,200)

Battelle’s April 2005 presentation to the Black Hills Vision Board of Directors reiterated that SDSM&T has a core research focus in polymer and composite processing that possesses tremendous growth opportunities in partnerships with industrial and federal research sponsors. Economic development arising from these partnerships can include significant intellectual property development, licensing, and technology commercialization opportunities.

The laboratory has helped SDSM&T become well-equipped to conduct state-of-the-art polymer synthesis and surface modifications of reinforcing materials as well as complete characterization of composite materials on macro-, micro-, and nano-scales. Polymer composite is one of the fundamental material building blocks being considered for structural applications.

While the Center for the Accelerated Applications at the Nanoscale (CAAN) has a full-time director, the same cannot be said for the SDSM&T polymer and composites laboratory. To recruit the caliber of person with relevant industrial and research background to supervise this

laboratory, we request three years' funding of the salary for the laboratory director. This stable funding base is similar to what was provided to recruit the 2010 research center director.

II. One-Time, Multi-Year Funding for SDSM&T Office of Technology Transfer (OTT) Director and Administrative Support (.5 FTE Director \$40k - 1.0 FTE \$30k Administrative Support - Year \$70,000)

SDSM&T has an obligation and a responsibility to make research results available for the benefit of the community. Entering into commercial arrangements is often the only way that a university can ensure that this happens. The transfer of technology to industry increases the inventor's exposure to that industry's expertise and needs, thus benefiting the inventor, the university and the industry. Commercially successful inventions will also generate income for the university and enhance its reputation.

Most intellectual property management offices are organized inside the university within the Office of Research. This type of organization is focused on service to the faculty and to the broader community of stakeholders. The budget reflects the expectations of the administration to provide a level of support necessary to satisfy the faculty and to report economic development activity.

SDSM&T will establish an Office of Technology Transfer (OTT) under the auspices of the Vice President for Research. Consistent with the current direction of many research universities, the vision and or mission statement focuses on economic development, job creation, faculty service, faculty recruitment and retention, induced investment, company start-ups, and related objectives.

We request support to hire a (.5FTE) Director of the OTT and an (1.0FTE) administrative assistant. The director will have business experience, preferably in a start-up or on product development based on Intellectual Property. S/he should understand the university culture and feel comfortable with the measures of success in the academic community. S/he should have a technical background with an understanding of the legal issues associated with business. The support position could be supplemented by student interns. The goal is initial funding for three years of support for both positions, after which time SDSM&T will secure sustainable funding for both positions. We would anticipate Mr. Butch Skillman fill this position.

The establishment of these critical positions coincides with the receipt of a \$200K FY06 HUD earmark-funding coming to SDSM&T via the Rapid City Economic Development Partnership (RCEDP) to build infrastructure for this office. This federal funding for the OTT office on campus can be leveraged with the private-sector funds for personnel support, as the South Dakota congressional delegation expects appropriate personnel to staff this office.

III. One-Time, Multi-Year Funding for CAAN Assistant Director (.5FTE \$40,000 Plus \$100k Start Up, Year 1 \$140,000)

This position represents a near-term opportunity to build the research and corporate relationship capabilities of the Center for Accelerated Applications at the Nanoscale (CAAN) in the area of nano-minerals and related nano-composite technologies. This opportunity can be captured by

providing salary support for the hiring of Dr. David J. Chaiko, a widely recognized and productive expert in the field of mineral process engineering – specifically nano-minerals and nano-composites. In addition to the salary support, the requested funding would also provide a one-time start-up package that would include laboratory-scale chemical processing equipment and supplies, a dedicated post-doctoral research assistant, equipment usage fees, and a travel allowance.

Dr. Chaiko's role at CAAN will be within the areas of nano-minerals, processing, and related nanocomposites technologies. Because of his technology commercialization interests with NanoClays, LLC, as well as his considerable patent portfolio at Argonne, the focus of his efforts at CAAN will be the development of new, applied technologies that could be licensed to NanoClays for commercialization efforts. Personal communications between Dr. Chaiko and Dr. Shawn Decker indicate that NanoClays, LLC may have interest in locating in the Rapid City, SD area in order to pursue commercialization opportunities. Additionally, Dr. Chaiko is cognizant of other nano-minerals initiative at CAAN and SDSM&T, such as the proposed Black Hills – Nanoscale Minerals Institute (BH-NMI), the proposed NSF Industry / University Co-operative Research Center (I/UCRC) focused on nanominerals and functional fillers, and the mica-based research programs sponsored by Pacer Corporation. While the majority of Dr. Chaiko's efforts would be tied to existing initiatives relative to NanoClays, he has expressed interest in providing a leading role in each of the above industrially oriented programs. He already has significant corporate contacts at regionally important minerals companies such as American Colloid, Nanocor, BMP, and Halliburton.

Dr. Chaiko will pursue federal and corporate, applied research opportunities with the subsequent development of strong, long-term relationships with each of these communities. The accomplishment of these goals will in turn provide one platform for the self-sustainability of CAAN.

Charles Ruch
September 25, 2006

Multi-Year Budget

Title	Base Salary	Yr 1	Yr 2	Yr 3	TOTAL
Director, Polymer Lab	\$110,000	\$134,200	\$140,910	\$147,955	\$423,065
Director, Office of Tech Transfer 0.5 FTE	\$80,000 \$40,000	\$49,200	\$51,660	\$54,243	\$155,103
Administrative Assistant, Office of Tech Transfer 1.0 FTE	\$30,000	\$36,900	\$38,745	\$40,682	\$116,327
Associate Director, CAAN 0.5 FTE	\$80,000 \$40,000	\$49,200	\$51,660	\$54,243	\$155,103
Lab Start Up (one-time)		\$100,000			\$100,000
TOTAL		\$369,500	\$282,975	\$297,123	\$949,598

Note: Escalation/Year at 5%
Benefits at 23%