Lake Area Technical Institute

A Proposal to the

South Dakota Board of Education

for the Implementation of

ENERGY OPERATIONS TECHNOLOGY

at

Lake Area Technical Institute

June 2008

Lake Area
TECHNICAL
INSTITUTE

230 11th St NE Watertown, SD 57201
(605) 882-5284 or 1-800-657-4344
www.lakeareatech.edu

LAKE AREA TECHNICAL INSTITUTE (LATI)

ENERGY OPERATIONS TECHNOLOGY

IDENTIFICATION AND DESCRIPTION OF THE PROGRAM

This 20-month program will provide students with the knowledge, understanding, and skills needed to monitor and control the plant production, as well as isolate and identify process and system problems in the energy industry. This program would supply desperately needed skilled operations technicians to the energy industry. It should be noted that the industry in our region initiated both our current Energy Technology program and this Energy Operations Technology program. Power plants (coal-fired, hydro, wind turbine, and nuclear) and Process plants (ethanol, oil refineries, bio-diesel, and other renewable fuels) are rapidly expanding in the region. All of these facilities are facing an acute need for operations technicians who understand the plant components, systems, and processes. The technicians can then monitor, control, trouble shoot and operate the production equipment.

OBJECTIVES AND PURPOSE OF THE PROGRAM

The primary objective of the Energy Operations Technician program would be to graduate students with the necessary skills to be employed in both the power and process plant operation facets of the energy industry.

The program will articulate appropriate high school credits, whenever possible, however high school articulation will be limited due to the specialized nature and detail of the Energy Operations curriculum. LATI will explore possible articulation agreements with the Board of Regents once the program is started.

General program objectives will include the following:

- Prepare entry-level technicians in power and process plant equipment, systems, and processes.
- Train technicians in general power and process plant component control, regulation, and trouble-shooting.
- Provide technicians with a thorough knowledge of plant equipment including boilers, turbines, generators, and reactors.
- Train students to collect data and regulate equipment operations and conditions such as water levels, temperatures, pressures, and throughput.
- Provide analysis skills in reading charts, meters and gauges at established intervals, and take corrective steps as necessary.
- Teach technicians how and when to start or stop generators, auxiliary pumping equipment, turbines, and other power plant equipment, and connect or disconnect equipment from circuits.

- Provide an understanding of how to inspect records and log book entries, and communicate with other plant personnel, in order to assess equipment operating status.
- Train how to control and monitor auxiliary equipment, such as pumps, fans, compressors, condensers, feedwater heaters, filters, and chlorinators, to supply water, fuel, lubricants, air, and auxiliary power.
- Train how and when to clean, lubricate, and maintain equipment such as generators, turbines, pumps, and compressors in order to prevent equipment failure or deterioration.
- Give technicians the ability to communicate with systems operators to regulate and coordinate transmission loads and frequencies, and line voltages.
- Provide students with the knowledge, skills, and attitude to advance in the career paths.
- Instill safe, ethical, and legal energy industry practice techniques.

METHODS OF ATTAINING THE OBJECTIVES OF THE PROGRAM

The Energy Operations Technology program will have two major components: technical theoretical training and practical experience gained in the labs and on the internship. The curriculum will utilize some aspects of the current LATI's Energy Technology, Aviation and Environmental Technology programs. New curriculum specific to the needs of Energy Operations Technology will be developed. New curriculum will utilize the services of the Innovation Center and Industry to infuse the delivery with state-of-the-art technology. The curriculum will be developed in an eLearning context for eventual hybrid on-line delivery.

The curriculum will also include the required general education courses to enable LATI to award graduates an Associate of Applied Science degree. See Appendix A.

The Energy Operations program will work closely with an advisory board composed of representatives from the various sectors of the industry. The advisory board will provide input to assist with further curriculum development, facilitate the establishment of internship sites, and assist with marketing strategies to promote the program.

DESCRIPTION OF THE NEEDS BASED ON LABOR MARKET DEMANDS IN THE UNITED STATES AND SOUTH DAKOTA

LATI was approached by industry in the region about the need for technicians with the skills needed to monitor and control the plant production, as well as isolate and identify process problems in the energy industry. See attached letters of support, Appendix B.

In 2004, South Dakota had 38,848 people employed in manufacturing industries within 1,062 establishments, according to the Quarterly Census of Employment and Wages. Administrative Wage Records indicate 33% of manufacturing and plant maintenance workers were over 45 years of age, with 69% being male. The renewable and alternative energy production industries are booming in South Dakota with several new ethanol plants and wind fields already in operation or under construction. There is planned construction of an oil pipeline from Canada; Big Stone power plant has proposed a

huge expansion; Basin Electric has proposed construction of a coal-fired electricity power plant in Selby; and there is planned construction of an oil refinery in Elk Point.

Besides the demand for highly skilled and certified operations crews in the new plants, there will be a high demand by existing plants to replace retiring workers.

The following information from South Dakota Secretary of State Development, Richard Benda, further demonstrates the need:

Economic Development

Big Stone Power Plant Continues to Move Forward

- $1.5 Billion Project
- Construction to begin in early 2009
- Extra capacity could be used for wind power transmission
- 35-40 operational workers

Economic Development

NextGen Coal Fired Electricity Generation Facility

- Selby chosen as "owner's preferred"site
- $1.7 to $2 billion project
- Construction pending approval of permits
- 150-200 workers

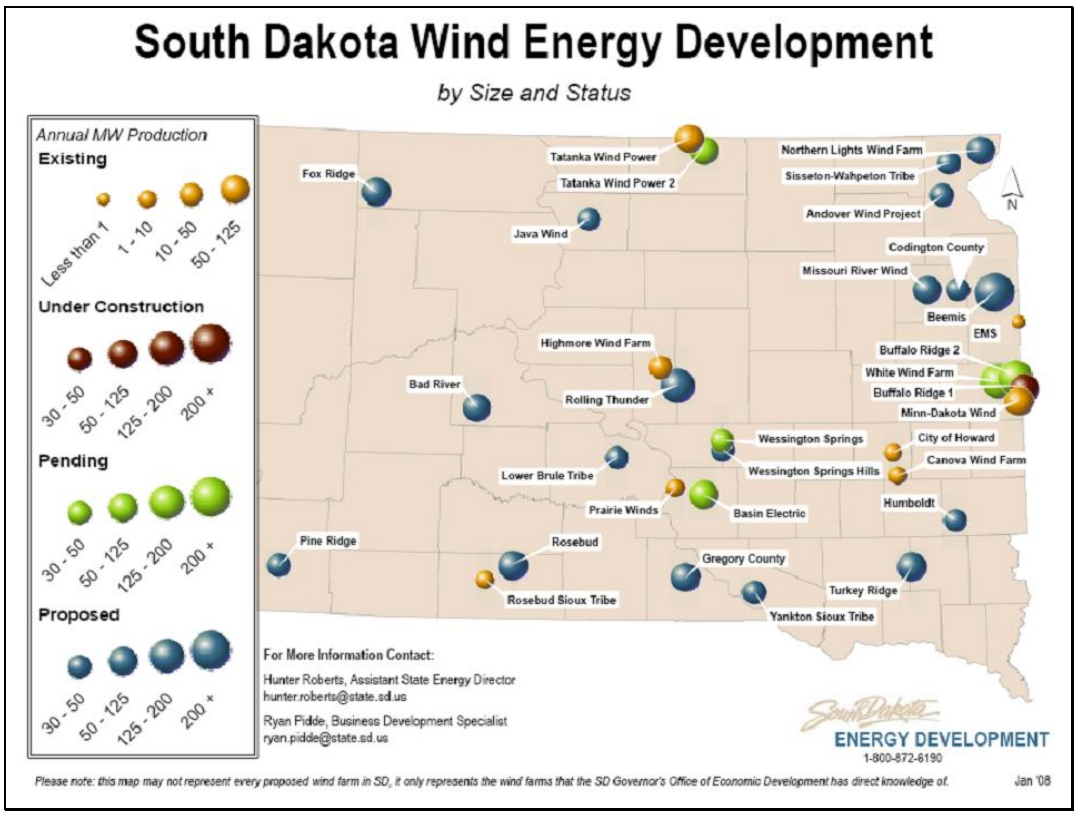
Economic Development

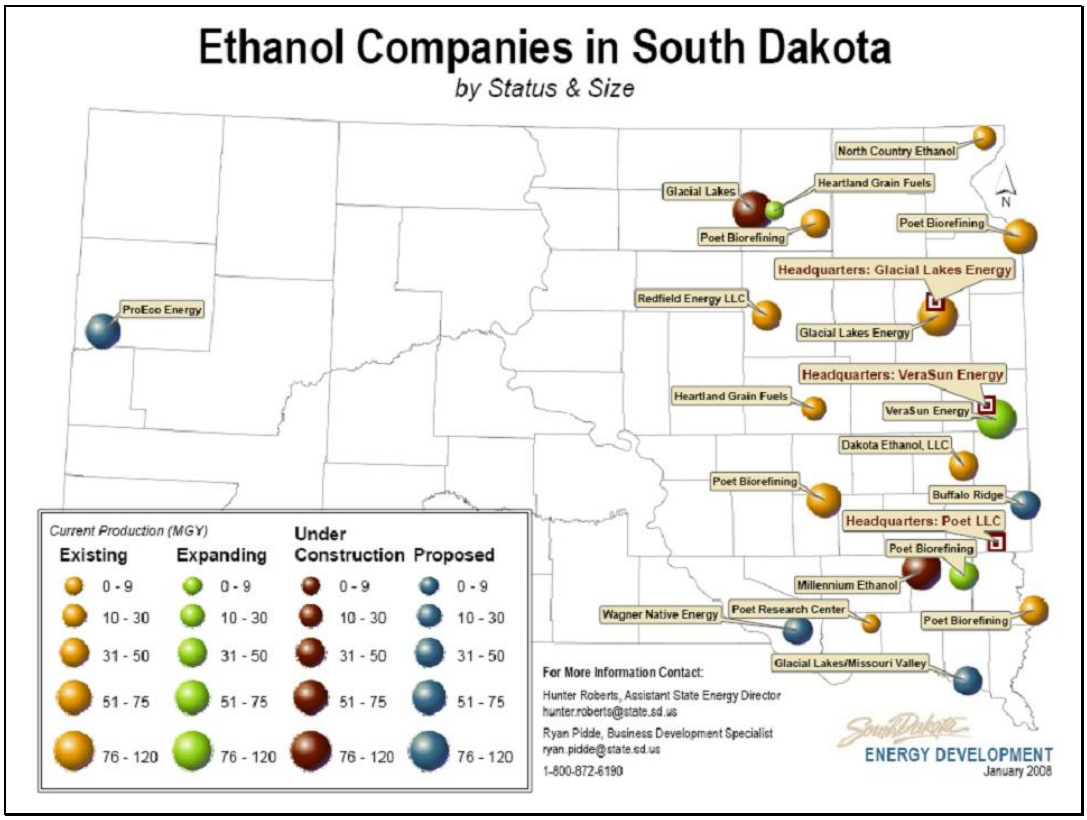
Hyperion Energy Center = $8 to $10 B

Employment

Long term	1,800 FTEs
Construction	4,500 FTEs

- Green Energy Technology Center
- www.hyperionec.com
- Filed for Permits – December 2007


South Dakota Wind Energy Development
by Size and Status
Annual MW Production
Existing
Less than 1
1 - 10
10 - 50
50 - 125
Under Construction
30 - 50
50 - 125
125 - 200
200 +
Pending
30 - 50
50 - 125
125 - 200
200 +
Proposed
30 - 50
50 - 125
125 - 200
200 +
Fox Ridge
Tatanka Wind Power
Tatanka Wind Power 2
Java Wind
Northern Lights Wind Farm
Sisseton-Wahpeton Tribe
Andover Wind Project
Codington County
Missouri River Wind
Beemis
EMS
Highmore Wind Farm
Buffalo Ridge 2
White Wind Farm
Buffalo Ridge 1
Minn-Dakota Wind
Bad River
Rolling Thunder
Wessington Springs
City of Howard
Canova Wind Farm
Wessington Springs Hills
Lower Brule Tribe
Prairie Winds
Basin Electric
Humboldt
Pine Ridge
Rosebud
Gregory County
Turkey Ridge
Rosebud Sioux Tribe
Yankton Sioux Tribe
N
For More Information Contact:
Hunter Roberts, Assistant State Energy Director
hunter.roberts@state.sd.us
Ryan Pidde, Business Development Specialist
ryan.pidde@state.sd.us
ENERGY DEVELOPMENT
1-800-872-6190
Please note: this map may not represent every proposed wind farm in SD, it only represents the wind farms that the SD Governor's Office of Economic Development has direct knowledge of.
Jan '08


Ethanol Companies in South Dakota
by Status & Size
North Country Ethanol
Glacial Lakes
Heartland Grain Fuels
Poet Biorefining
Poet Biorefining
Headquarters: Glacial Lakes Energy
Redfield Energy LLC
Glacial Lakes Energy
ProEco Energy
Headquarters: VeraSun Energy
Heartland Grain Fuels
VeraSun Energy
Dakota Ethanol, LLC
Poet Biorefining
Buffalo Ridge
Headquarters: Poet LLC
Poet Biorefining
Millennium Ethanol
Wagner Native Energy
Poet Research Center
Poet Biorefining
Glacial Lakes/Missouri Valley
N
Current Production (MGY)
Existing
Expanding
Under Construction
Proposed
0 - 9
10 - 30
31 - 50
51 - 75
76 - 120
For More Information Contact:
Hunter Roberts, Assistant State Energy Director
hunter.roberts@state.sd.us
Ryan Pidde, Business Development Specialist
ryan.pidde@state.sd.us
1-800-872-6190
ENERGY DEVELOPMENT
January 2008

LATI is confident the individuals pursuing this option will have many job possibilities including employment in power plants (coal-fired, hydro, and nuclear) and process plants (ethanol, oil refineries, bio-diesel, and other renewable fuels).

POPULATION TO BE SERVED BY THE PROGRAM

The Energy Operations program will be available to any applicant who has successfully met the admission standards for the program as set by LATI. The program will be full-time. No restriction will be made regarding race, age, creed, or gender. The program will draw students primarily from South Dakota and western Minnesota. The employers served will fall within the same geographical area.

PROJECTED THREE YEAR BUDGET

The Energy Operations program will be located in facilities currently being added to the LATI campus and also utilize the facilities of various industry partners in Watertown. Access to the technical expertise of the current Energy Technology instructors and equipment in the lab areas will give the Energy Operations students many resources.

The instructors will have a minimum of three years of professional work experience in the energy industry. Program enrollment would be limited to 22 students the first year.

THREE YEAR PROJECTED BUDGET

	FY 10	FY 11	FY 12
Instructors Salary/Benefits	$58,500	$119,000	$126,140
Equipment	25,000	15,000	25,000
Supplies	10,000	10,000	10,000
Travel	2,500	3,000	3,000
PR/Misc	1,000	1,000	1,000
Contracted Services	1,000	1,000	1,000
Totals	$98,000	$149,000	$166,140

PROGRAM COMPETENCIES AND ENTRY AND EXIT POINTS OF SUBOCCUPATIONS

Entry Points: Fall and Spring Semester

Exit Point: After completion of all coursework.

Job Titles: Process and Power Plant Operators

Statement of Non-duplication

This program is not available at any college or Technical institute in South Dakota. While Mitchell Technical Institute offers a SCADA program, Energy Operations Technology differs in it focuses on production processes and how the components of the plant operate together to produce energy or fuel. The Energy Operations program will cover boiler theory and operations, turbine theory and operations, water and environment monitoring and control, and process (specifically ethanol) plant theory and operations.

There is no suitable program in South Dakota today. According to Jeff Endrizzi, Manager of Big Stone Power Plant, "Our Operators require training in the Electric Industry, Safety, Power Plant Equipment, Thermodynamics, Water Treatment, Energy Sources and Conversion, Boilers, Gas Turbines, Steam Turbines, Power Generation, Electrical Systems and Protection, and Plant Operations and Troubleshooting."

Curriculum Design

See Appendix A for Curriculum Outline.

Survey/Wage Factor

The median salary for an Energy Operations technician would be $26.44 an hour, $55,000 annually according to the National Bureau of Labor Statistics, 2006. See Appendix C.

INDEX OF APPENDICES

A. Draft Energy Operations Program Curriculum

B. Letters of Support

C. Salary and Wages Information

DRAFT ENERGY OPERATIONS

PROPOSED 2009 – 2010

Twenty Months

Associate of Applied Science (A.A.S.) Degree

Credits Required for Graduation: approx 72

Global Energy

Producing economical energy has become a global business with a demand is so large that it has created opportunities for newly developed careers in the energy industry and adding additional numbers to the current industry employee base. The Energy Operations program is designed to meet the ever-increasing need in the particular area of power and process plant operations technicians for energy producing industries.

Earth, Wind, and Fire…

Power plants (coal-fired, hydro, and nuclear) and Process Plant (ethanol, oil refineries, bio-diesel, and other renewable fuels) are rapidly expanding in this region. The ethanol industry's production capabilities are exploding across the Midwest and two new coal fired power plants and a refinery are on the horizon for Eastern South Dakota. All of these facilities are facing an acute need for technicians who can monitor, control and operate the production equipment for the energy industry.

Utilizing What We Have

The Energy Operations programs will have two major components: technical theoretical training and practical experience gained in the labs and during the internship. The Energy Operations program provides a baseline understanding of mechanics and systems, then students specialize in either process plants or power plants – going in depth on monitoring, controlling, and trouble shooting plant systems. Students will learn electrical systems, turbines, boiler systems, and other core theory and skills. They will also learn metallurgy, pneumatics, hydraulics, thermodynamics, combustion, vibration analysis and dynamic balancing. Environmental and safety concerns will also be taught throughout the program.

The Future

The growth of the energy industry in this area of the country is substantial. The need for Plant Operations Technicians in the energy field is solid both locally and nationally. A skilled energy technician can earn high wages in ethanol plants, power plants, wind turbine farms, pipelines, dairy and cheese processing plants, and any industry that requires an employee to understand processes and perform industrial maintenance.

Recommended Background Courses

Although not required, the following courses would be beneficial to this course of study prior to attending Lake Area Technical Institute: Math, Algebra, Physics, Computer, communication skills, industrial technology courses.

CORE COURSE DESCRIPTIONS

ET 100 – Fundamentals of Energy Production and Distribution (2 credits) This course will help the student gain a strong knowledge of various energy sources and technologies through study and discussions on conventional, alternative, and emerging sources of energy.

EPO 103 — Applied Math — 3 Credits This course will teach basic math skills and apply those to energy industry situations. Students learn the metric system, basic volume and area calculations as well as algebra and trigonometry and how they apply to industry specific situations

ET 105 – OSHA/Safety & Hazardous Materials Safety (1 credit) This course will cover OSHA laws, rules, and regulations for the industrial construction and possible hazards in the workplace. Preventative measures that can be taken to insure your safety and the safety of those around you will also be covered. Identifying types of hazardous material, demonstrating personal protective equipment, and identifying blood borne pathogens.

EPO 106 — DC Fundamentals — 2 Credits This course covers basic direct current theories and applies those theories to the electrical system and related equipment. Students will study methods of producing a voltage, such as batteries, magnetic fields, basic series and parallel circuits. Students will also study basic DC circuit calculations.

EPO 108 — AC Fundamentals — 3 Credits This course covers basic alternating current theories and applies those theories to electrical systems and related equipment. Students will also study basic generator and motor design, construction and operating principles.

EPO 112 — Basic Print Reading — 2 Credits This course covers schematics, prints, piping and instrument diagrams used in the energy industry. Students will learn how to interpret simple block and single-line diagrams, which will prepare them for the logic and electrical schematics included in this course.

EPO 116 — Instrumentation & Control — 4 Credits This course provides a comprehensive look and study of instrumentation components, control theory, control systems and typical controllers associated with the operation of energy facilities.

EPO 118 — Thermodynamics — 3 Credits Students enrolled in this course will study heat transfer, fluid flow and the conservation of energy. Specific equipment design considerations based on thermodynamic principles covered.

EPO 120 — Water Purification & Treatment — 2 Credits This course covers industrial water treatment processes. Students will study boiler water treatment, raw water treatment, and the design and operation of ion exchangers. The course also covers cooling water treatment equipment and waste water treatment equipment and systems.

PROCESS PLANT OPERATIONS COURSE DESCRIPTIONS

EPO 102 – Introduction to Process Technology (3 Credits) This course is designed to provide an introduction to process plant operations including ethanol plants, chemical and refinery plants, natural gas facilities, gasification operations, combined cycle and food processing operations. Student is required to complete a tour of a process facility during this course. Equipment overviews and the initiation/maintenance of a career portfolio are components of this course

EPO 216 - Process Boilers — 2 Credits This course provides a comprehensive study of industrial manufacturing plant boilers and furnaces, and supporting auxiliary systems. Students will study typical process plant boiler, oxidizer and furnace types, their operation, safe firing theory, troubleshooting techniques, and typical maintenance

EPO 235 — Hydrocarbon Chemistry — 3 Credits This course provides a fundamental study of the organic chemistry of hydrocarbons associated with crude oil. This course will also focus on process chemistry, chemistry fundamentals, typical process reactions and process solubility theory.

EPO 237 — Distillation & Refinery Operations — 4 Credits This course provides a comprehensive study of processes associated with refining, and petrochemical distillation. This course will also focus on equipment designs, operation requirements and technician responsibilities associated with the operation of typical distillation facilities.

EPO 239 — Gas Processing — 3 Credits This course provides a comprehensive study of the processing technologies associated with the production of natural gas and other gases found within natural gas fields. Students will study gas laws, molecular structure, process theory, terminology, equipment and the auxiliary systems which support the production and processing of gases.

EPO 244 — Ethanol & Biofuels Production — 4 Credits Students enrolled in this course will study the design, operation, equipment and process flows of ethanol plants and biofuels facilities including biodiesel plants. The student will have the ability to interpret basic flow diagrams and understand related terminology. The equipment design and operation used in these facilities will be a focus as well as safety considerations, typical maintenance, and startup/shutdown procedures

EPO 212 — Auxiliary Systems & Refrigeration — 3 Credits This course provides a comprehensive study of industrial manufacturing plant auxiliary systems, including fluid power, piping and piping systems, pumps and pump drive systems, compressors and fan systems, refrigeration, and hydraulic systems, but not restricted to these components. This course will introduce students to the operation, design and maintenance of auxiliary systems equipment.

EPO 218 — Process Operations & Troubleshooting — 3 Credits This course is designed to provide instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Students will use existing knowledge of equipment, systems, and instrumentation to understand the operation of an entire unit in a facility. Students study concepts related to commissioning, normal startup, normal operations, normal shutdown, turnarounds, and abnormal situations, as well as the Process Technician's individual and team role in performing tasks associated with these concepts within an operating unit.

EPO 220 — Practical Applications — 2 Credits Students will participate in hands-on lab activities, internships or industry job shadowing to gain entry-level job competencies.

POWER PLANT OPERATIONS COURSE DESCRIPTIONS

EPO 112 — Introduction to the Electric Industry — 3 Credits This course provides students with an overview of the electrical power industry, including its history, development and regulatory environment. Students will learn about the transmission of electricity and the development of regional and national energy grids, including changes in the regulation of the power industry

EPO 201 — Power Plant Equipment — 3 Credits This course covers the various types of equipment used in the production of electricity, including pumps, valves, air compressors, coal pulverizers, fans, cooling towers, condensers and heat exchangers. Students also study some basic power plant systems and learn where certain types of equipment are used and why.

EPO 203 — Energy Sources & Conversion — 2 Credits Students enrolled in this course will study the various forms of energy and the processes used to convert chemical and potential energy into thermal, mechanical and in some instances electrical energy. Energy sources that will be studied include fossil fuels (coal, oil and natural gas), hydro, wind, fuel cells, solar, derived fuel, geothermal and nuclear. Combustion and reaction will be discussed in detail for those energy sources that require combustion to covert from one energy form to another.

EPO 207 — Boilers — 4 Credits In this course the various types of boilers, systems, components and auxiliary systems associated with steam generators are covered. Including low/high pressure, fire tube/water tube, negative/positive draft, drum type, supercritical and fluidized bed boilers. Boiler operation, combustion, safety and emission control equipment will be covered along with efficiency measures.

EPO 210 — Gas Turbines & Combined Cycle Operations — 4 Credits Students enrolled in this course will study all the elements that make up a gas turbine and a combined cycle unit. This course also covers the safe and efficient operation of gas turbines and heat recovery steam generators and different applications for combine cycle and cogeneration configurations.

EPO 222 — Steam Turbines & Auxiliaries — 3 Credits This course covers basic steam turbine construction and design and associated auxiliary systems. Students will learn how thermal energy is converted to mechanical energy as the steam passes through a typical industry steam turbine. Students will also study the auxiliary systems associated with steam turbine operation, including extraction steam systems, gland steam sealing systems, turbine lube oil systems, seal oil systems, instrumentation and control devices and protective schemes used during abnormal operating conditions. Steam turbine start-up and shut-down procedures will also be studied.

EPO 224 — Power Generation — 2 Credits Students enrolled in this course study the design and construction of large industrial generators used in the electricity production. Students will study the various exciter designs and operation and the various auxiliary equipment that supports generator operation.

EPO 226 — Electrical System Components & Protection — 4 Credits Students enrolled in this course will study the electrical systems from the main generator through the switchyard including the various relay and protection schemes and zones. Safety aspects and operational checks when placing electrical systems and components in and out of service will be covered.

EPO 228 — Plant Operations & Troubleshooting — 3 Credits Students will gain the knowledge necessary to comprehend overall power plant operations and respond to abnormal operating conditions. Students will also participate in root cause analysis exercises while troubleshooting different operating scenarios.

To fulfill graduation requirements, students must select one course in each of the areas listed. Courses marked with an asterisk can be transferred directly to the university system under the terms of articulation agreements.

Behavioral Science Course
PSYC 100 – Psychology of Human Relations
PSYC 101 – General Psychology *

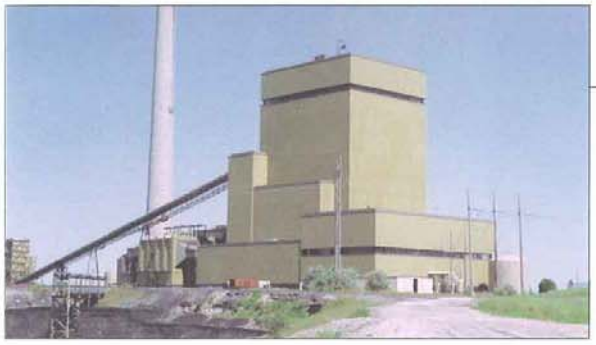
Computer Course
CIS 102 – Windows Applications for Technicians
CIS 105 – Microcomputer Software Applications

Communications Course
COMM 101 – Contemporary Communication
ENGL 101 – Composition *
SPCM 101 – Fundamentals of Speech *

Mathematics Course
MATH 100 – Applied General Math
MATH 101 – Intermediate Algebra
MATH 102 – College Algebra *

Social Science Course
ECON 105 – Leadership in the Global Workplace
ECON 201 – Principles of Microeconomics I *
ECON 202 – Principles of Macroeconomics II *
SOC 100 – Introduction to Sociology *

230 11th Street Northeast • PO Box 730 • Watertown, SD 57201 • (605) 882-5284 or 1-800-657-4344 • web site at www.lakeareatech.edu
Lake Area Technical Institute offers superior, comprehensive technical education, creating a foundation for success in an ever-changing world.



BIG STONE PLANT

48450 144th Street, PO Box 218
Big Stone City, SD 57216-0218
(605) 862-6300

MONTANA-DAKOTA UTILITIES CO.
400 North Fourth Street
Bismarck, North Dakota 58501

OTTER TAIL POWER COMPANY
215 South Cascade Street
Fergus Falls, Minnesota 56537

NORTHWESTERN PUBLIC SERVICE
33 Third Street S.E.
Huron, South Dakota 57350-1318

June 15, 2008

Office of Career and Technical Education
700 Governor's Drive
Pierre, SD 57501

Ref: LATI Energy Operations Program

Director Wilson,

Otter Tail Power Company whole-hearted supports Lake Area Technical Institute's application to start an Energy Plant Operations degree program. Such a program is key to workforce development for South Dakota's growing energy industry. Otter Tail has a long-standing relationship with Lake Area Technical Institute, not only serving on the Energy Technology Advisory Board, but also through providing scholarships and annual support, as well as hiring LATI graduates into the energy industry.

As of today, 70 percent of the Big Stone Power Plant staff is 45 years of age or older. Couple these pending retirements with the projected growth due to new facilities our company intends to build, our company alone will have 50 energy technician and operator positions to be filled in the near future. We are but one piece of the energy community growth in South Dakota. The renewable and alternative energy production industries are booming in South Dakota with several ethanol plants and wind fields already in operation or under construction. There is a planned construction of an oil pipeline from Canada, Basin Electric has proposed construction of a coal-fired electricity power plant in nearby Selby, and Hyperion is evaluating the construction of an oil refinery in the Elk Point area.

Lake Area Technical Institute, one of only four public post-secondary technical institutes in South Dakota, is recognized as a leader in technology education and an ardent steward of public funds. LATI is known for working closely with industry, and a strong team from industry has already been assembled to guide the Energy Plant Operations program. Lake Area Tech's request begins to address the existing and growing shortfalls in skilled energy plant operations technicians in South Dakota's energy production job sectors.

Sincerely,

Jeff Endrizzi
Plant Manager

Cc: Lake Area Technical Institute, Watertown, SD

Glacial Lakes Energy, LLC
301 20th Avenue SE
P.O. Box 933
Watertown, SD 57201
Phone: 605-882-8480
Fax: 605-882-8982
www.glaciallakesenergy.com

Mark Wilson
Office of Career and Technical Education
700 Governor's Drive
Pierre, SD 57501

15 Jun 2008

Director Wilson, Ref: LATI Energy Operations Program

Glacial Lakes Energy (GLE) whole-hearted supports Lake Area Technical Institute's application to start an Energy Plant Operations Associates of Applied Science degree program application. GLE has a long standing relationship with Lake Area Technical Institute, not only serving on the Energy Technology Advisory Board, but also through providing scholarship and annual support -- as well as hiring LATI graduates.

The Ethanol Industry is growing and maturing. As this occurs, there will be a continuing need for skilled operations technicians, both in new position, but also to replace retiring individuals. In 2004, Administrative Wage Records indicate 33 percent of manufacturing and plant maintenance workers were over 45 years of age. And the Ethanol Production Industry is but one piece of the energy community growth in South Dakota.

Lake Area Technical Institute (LATI), one of only four public post-secondary technical institutes in South Dakota is recognized as a leader in Energy technology education and an ardent steward of public funds. A strong Advisory Board comprised of member of the Energy Industry has been assembled, and it is being augmented with participation from South Dakota One-stop career shop, the City of Watertown, th e South Dakota Department of Labor, and the South Dakota Office of Career and Technical Education. Lake Area Tech's request begins to address the existing and growing shortfalls in skilled energy technicians in South Dakota's energy production job sector. We urge timely passage of their program proposal.

Thomas E. Branhan

Thomas E. Branhan
Chief Executive Officer
Glacial Lakes Energy, LLC

Cc:
1. Lake Area Technical Institute, Watertown, SD

SOUTH DAKOTA DEPARTMENT OF LABOR
PAMELA S. ROBERTS, SECRETARY

March 21, 2008

Ms. Elaine L. Chao, Secretary
United States Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210

Re: SGA/DFA PY 07-07

Dear Secretary Chao:

The South Dakota Department of Labor is pleased to support Lake Area Technical Institute (LATI) in their proposed Energy Plant Operations training program. This proposal is being submitted under the High Growth Job Training Initiative Grants for the Energy Industry and Construction and Skilled Trades in the Energy Industry, SGA/DFA PY 07-07.

If this request is awarded, the South Dakota Department of Labor will contribute $30,000 of its Workforce Investment Act (WIA) funding to the $450,000 program total. We will also consider eligible program enrollees for WIA financial assistance of up to $4,000/year.

The renewable and alternative energy production industries are booming in South Dakota with:

- Several new ethanol plants and wind fields under construction or already in operation.
- Planned construction of an oil pipeline from Canada.
- A huge expansion proposed for the Big Stone power plant.
- Proposed construction by Basin Electric of a coal-fired power plant near Selby.
- Planned construction of an oil refinery near Elk Point.

With this industrial growth, however, comes the need for qualified manufacturing and plant maintenance workers. Unfortunately, a significant portion of South Dakota's workforce in these areas is edging closer to retirement. LATI's proposed program addresses the existing and growing shortfalls in skilled energy technicians in South Dakota's energy production, construction, and maintenance job sectors. It would provide key infusions of training technology and expand the area's annual training capacity by 44 students working towards an Applied Associate of Science in Energy degree and by more than 100 continuing education students.

EXECUTIVE OFFICE KNEIP BUILDING 700 GOVERNORS DRIVE
PIERRE, SOUTH DAKOTA 57501-2291
605-773-3101 - (Fax) 605-773-4211

Elaine Chao
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March 21, 2008

The South Dakota Department of Labor recognizes LATI as a technology education leader, as a close partner with industry and as a faithful steward of public funds. LATI has assembled a strong industrial team, including an advisory board composed of members of the energy industry. This will be augmented by the participation of the South Dakota Career Centers, the city of Watertown, and the South Dakota Office of Career and Technical Education.

We urge you to give serious consideration to this funding request. Thank you.

Sincerely,

Pamela S. Roberts
Secretary

cc: Lake Area Technical Institute, Watertown, SD
Eric Luetkenhaus, USDOL Federal Grant Officer

Wages & Employment Trends

National*

Median wages (2006)	$26.44 hourly, $55,000 annual
Employment (2006)	35,000 employees
Projected growth (2006-2016)	(3% to 6%)
Projected need (2006-2016)	13,000 additional employees

*US Department of Labor, Bureau of Labor Statistics at www.bls.gov