

ND PETROLEUM COUNCIL

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May 31, 2005

Ms. Karlene Fine
North Dakota Industrial Commission
600 E. Boulevard Avenue
Bismarck, ND 58505

Subject: Grant Application for the North Dakota Petroleum Council Oil and Gas Education Program

Dear Ms. Fine:

Enclosed is a grant application requesting the North Dakota Industrial Commission to approve funding from the Oil and Gas Research Council to help fund the North Dakota Petroleum Council (NDPC) Oil and Gas Education Program. The Petroleum Council is the primary sponsor of an Oil and Gas Education Program, which includes a Teacher Education Seminar and a school-based program called the Energy Career Awareness Partnership (ECAP) where NDPC partners with other interests in the energy industry and public entities. We are requesting \$100,000 to help fund this program over the next two years. A \$100 check is enclosed to cover the application fee.

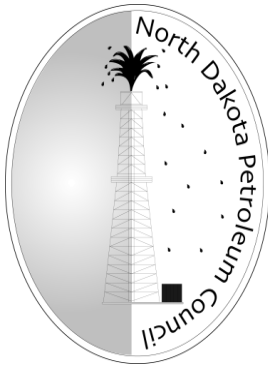
The NDPC is committed to complete the education program detailed in this grant request. This program has proven successful and needs a funding mechanism in order to continue into the future.

Please contact me if you have any questions or need additional information for the enclosed grant application.

Sincerely,

Jeff Herman, Past President
North Dakota Petroleum Council

mr
enclosures



Applicant: **North Dakota Petroleum Council**
PO Box 1395, Bismarck, ND 58502
701-223-6380 / 701-226-0006 (fax)
Principal Investigator: **Jeff Herman,**
Past-President
Date of Application: **May 27, 2005**

North Dakota Petroleum Council

Oil and Gas Education Program

Grant Requested
from the
North Dakota Oil and Gas Research Council

Amount Requested: \$100,000

Grant Deadline: June 1, 2005

TABLE OF CONTENTS

1.0 Abstract.....	Page 3
2.0 Project Summary.....	Page 3
3.0 Project Description.....	Page 5
4.0 Standards of Success.....	Page 7
5.0 Background.....	Page 7
6.0 Qualifications.....	Page 8
7.0 Value to North Dakota.....	Page 9
8.0 Management.....	Page 10
9.0 Timetable.....	Page 11
10.0 Project Budget.....	Page 11
11.0 Matching Funds.....	Page 12
12.0 Tax Liability.....	Page 12
13.0 Confidential Information.....	Page 13
14.0 Patents and Rights to Technical Data.....	Page 13
15.0 Appendices.....	Page 13

1.0 Abstract

The objective of the North Dakota Petroleum Council (NDPC) Oil and Gas Education Program is to effectively educate students, teachers, parents, and the general public about the benefits and opportunities provided by the North Dakota oil and gas industry. The approach being used is to educate our youth at an age where opinions are still being formed and career choices and curriculum choices can be influenced by experiences and learning in the hope that they will consider a career in the state's energy industry.

The expected result of the Oil and Gas Education Program is to provide an on-going education effort in our schools that will eventually expose virtually every North Dakota student to the energy industry. This awareness will create a positive mindset about the oil and gas and energy industry in young people who as future leaders might translate their knowledge into a positive public opinion of the industry and ultimately effectuate favorable public policy towards industry. A positive public opinion will help attract a workforce and create an interest and awareness of the career opportunities afforded by the North Dakota energy industry.

The Oil and Gas Education Program funding request is for a two-year program. The total budget for the education program described in this grant request is \$210,000 of which \$100,000 is requested from the Oil and Gas Research Council. The primary participant is the NDPC who will manage the program. Other participants are the financial supporters listed later in the grant request along with the projected 14,000 North Dakota students, teachers, and adults we intend to reach directly with the education program over the next two years.

2.0 Project Summary

The mission of the Oil and Gas Research Council is to promote the growth of the oil and gas industry through research and education. The NDPC Oil and Gas Education Program, outlined in this grant request, is an effective way for the Research Council to accomplish this mission.

Education is critical to the future success of the energy industry in our state. Public awareness of the value of the industry to the state is important for public acceptance and support of this industry which will be helpful when trying to attract a workforce. Encouraging students to consider the career opportunities in North Dakota's energy industry when they begin looking for employment is crucial, as industry faces a 50% to 75% retirement bubble in the next 10

years. To help foster better energy education, the NDPC has created an education outreach program to demonstrate to the public, teachers, students, and parents the value of North Dakota's energy industry and the career opportunities that exist in our state's energy industry.

This outreach program has grown in the past few years from just a three-day Teacher Education Seminar into a year-round program that puts someone in classrooms across the state on a daily basis to make presentations, conduct seminars and trade-shows, and hold training sessions about the energy industry. The program is known as the Energy Career Awareness Partnership (ECAP). ECAP directly presented to nearly 6,500 people in the past year and over the past three years has reached nearly 20,000 students, teachers, and parents. ECAP has also brought significant media attention that has resulted in a positive message about the energy industry and the looming workforce shortage.

The key to the education program being offered is that the message is delivered in classrooms throughout the state as a result of the partnership with the Bismarck Public Schools. The coordinator of ECAP is an employee of the Bismarck Public School District and is engaged in the career and technical education community. Bringing expertise and a collection of industry information and exhibits directly to students in their classrooms has provided teachers in those schools the ability to plan their coursework around this presentation and provides students real world examples of why math, science, geology, and economics are important in the workplace in life, and are essential for many career choices in North Dakota. Students with interests in these subjects may be drawn to advance their learning in this curriculum as they see the practical use of the skills in the workplace. In addition, students with interests in mechanics, welding, or other skilled areas can learn about career opportunities in those fields and might consider technical training after high school.

Another vital component of the NDPC Oil and Gas Education Program is a three-day Teacher Seminar each June that includes tours of energy facilities. The Teacher Seminar curriculum includes an overview of North Dakota's oil and gas industry, history, geology, geophysics, engineering, refining, leasing, gasoline marketing, public land issues, regulations, and safety issues. Each participating teacher receives over \$100 worth of hands-on activities, posters, videos, maps, and other related materials including a CD Rom with prepared lesson plans for their classrooms.

The objective of the seminar is to provide knowledge and information to the teachers on the oil and gas industry that they will find useful in their classroom. The target audience for the

seminar is middle school math, science, and history teachers along with fourth grade teachers and school counselors. The response from teachers in recent years has been excellent.

3.0 Project Description

The Oil and Gas Education Program focuses on reaching out to students and spreading a positive message about the oil and gas industry and addressing any myths about the negatives associated with industry. The target audience for the ECAP is grades 4 – 6, although audiences generally range from grade 4 through adult. We believe the greatest opportunity lies with the younger students while they are still forming opinions and find the tools, equipment, and paraphernalia interesting. The energy industry needs to attract talented students to advance research and technology and to accomplish this we need to create an interest in the industry at an early age.

The Teacher Seminar focuses on sending teachers home with practical and applicable information and classroom tools. It places an emphasis on technology and hands-on learning to help the teachers prepare lesson plans.

Day one of the seminar is spent in the classroom learning about the history of the oil and gas industry in North Dakota and the world, geology, physics, engineering, and production issues. There are also several hands-on learning activities and demonstrations that the teachers can use in their classrooms.

On day two, the teachers tour a production drilling rig, oil and gas producing well, gas plant, and reclaimed well sites in the National Grasslands with industry and Forest Service representatives. They get a first-hand look at how a drilling rig works and the amount of technology used in the oilfield. The Forest Service personnel provide an overview of how they permit oil and gas activity and ensure that the environment is protected while allowing this valuable resource to be harvested.

On the final day, the teachers tour the Mandan Refinery and learn about gasoline refining and marketing. As a result of the seminar, they will develop a better understanding of the complexity of the oil and gas industry, the impact it has on North Dakota's economy, and a better understand for the cost of energy. Our intent is that they will incorporate their new knowledge of the oil and gas industry into their classrooms. They are eligible to receive a

graduate credit for attending the course if they submit a lesson plan on how they will incorporate what they learned into their classroom.

Seminar Topics Include:

The History of oil and gas in North Dakota

- When and where was oil discovered?
- 50 years of oil production in North Dakota
- Compete in oil trivia and stock market simulation games

Finding, drilling, and producing oil

- How do they find the oil and get it out of the ground?
- What products are made from petroleum?

Petroleum Geology

- Why is petroleum found in western North Dakota rock?
- How is math used to determine how much oil is in the rock?

Oil and the Environment

- Can they co-exist?
- The oil and gas resources in the North Dakota Grasslands
- Are reclamation activities effective?

Career Exploration in the Energy Industry

- What types of jobs exist in the energy industry?
- What are the skill requirements for the jobs?

Petroleum Refining

- How does the oil get to the refinery?
- How much gasoline is in a barrel of oil?
- What types of jobs are at a refinery?

Gasoline Marketing

- How is gasoline priced?
- Why do gasoline prices fluctuate?

There is a tremendous lack of quality information available in North Dakota classrooms and school libraries relating to petroleum in general, and, specifically, North Dakota's oil and gas resources. Through this program, we have created an energy education kit. This kit is a

collection of information on the oil and gas industry and natural resources in North Dakota. These kits are sent to the schools from which teachers are represented at the seminar. The kits provide a resource for everyone in the school.

4.0 Standards of Success

The measuring stick of success in changing public opinion is difficult to quantify without a costly and timely analysis. However, success must be measured by the satisfaction of the audience and the response to the information presented. Teachers attending the Teacher Education Seminar complete evaluations at the completion of the seminar. The seminar evaluations have been very positive. Many teachers are surprised at how much they learned in the seminar and comment about how little they knew about this industry. The evaluations are reviewed by the instructors to determine how to improve the course in the future. There are many hands-on activities and examples of how to incorporate the oil and gas industry into their classrooms. For example, the geology instructor has a glass jar, bag of marbles, sand, cooking oil, and water and he shows them several examples relating to geology that will help students understand migration, porosity, and permeability. They all leave the seminar with samples of crude oil, drilling mud, salt water, a copy of the NDPC's Dakota Prairie Grasslands Oil and Gas Showcase Video (the video demonstrates industry's ability to responsibly produce oil and gas on public lands), and plenty of written materials and brochures from the American Petroleum Institute and other organizations.

ECAP is gaining recognition across the entire state. Schools are scheduling the program each year and it is becoming part of the routine for teachers each year. Other entities, such as Job Service, are using ECAP to train their staff on careers in energy and to get a better understanding of the energy industry as well. Responses from the companies and state agencies funding the program have been positive. The energy industry supports such an effort and understands that we must be educating our youth at early ages in order to have an impact on their career decisions.

5.0 Background

The NPDC has long recognized the critical need to educate the public about the oil and gas industry; therefore, has been sponsoring a teacher seminar for nearly 13 years. The focus of

the seminar is directed towards giving educators a hands-on learning experience and a broad overview of the oil and gas industry. The seminar is designed to provide teachers with information to take back to be used in the classroom in order to educate their students about the oil and gas industry for years to come. The seminar was reorganized in 2000 making it a more hands-on seminar with tours and practical applications that can easily be replicated in classrooms.

The NDPC has primarily funded the seminar with membership dues along with contributions from the Dickinson and Williston API Chapters and the Landmans' Association of ND. The cost of the program continues to increase; therefore, the increasing number of participants, information, and activities in recent years has increased the NDPC's expenses and making additional financial assistance necessary.

ECAP was started in 2002 through a partnership with the Bismarck Public Schools, NDPC, Montana Dakota Utilities, Tesoro Petroleum, Basin Electric, Bismarck State College, North Dakota Job Service, Career and Technical Education, and the North Dakota Governor's Office. Other entities have joined the partnership and have helped fund the program the past two years. The program is housed at the Bismarck Public Schools office and the coordinator is an employee of the school district. Having this direct link to the schools has allowed this program to be fully engaged in all school career education programs and has opened doors statewide for acceptance of the program. The Governor's Office has solicited funding for approximately 55% of the program costs each of the past two years. The supporting partners pay the other 45% of the program expenses. The Governor's Office made a two-year commitment to funding ECAP. That two-year period has ended and a new funding source must be found for ECAP to continue. Therefore, the Oil and Gas Research Council is the logical source to fund a program that meets their goals, has proven successful, and is supported by a broad group of the oil and gas industry, other energy partners, the Governor's Office, and key state agencies.

6.0 Qualifications

The North Dakota Petroleum Council is a nonprofit trade association that represents more than 100 companies involved in all aspects of the oil and gas industry including oil and gas production, refining, pipeline, mineral leasing, consulting, legal work, and oil field service activities in North Dakota, South Dakota, and the Rocky Mountain Region and is affiliated with

the American Petroleum Institute in Washington, DC. The NDPC has been holding a teacher seminar for nearly 13 years. ECAP has been in existence for three years. Under this grant, these programs will be combined into an energy program managed by the NDPC. Kent Ellis, the coordinator for ECAP, is employed by the Bismarck Public School District and is also a petroleum landman. He is also a former classroom teacher and School-to-Work Coordinator. His knowledge of the industry and teaching skills provide an invaluable combination that allows him to present the information to students of all ages in an intriguing way. Other partners that make financial and technical contributions to ECAP include education and career experts such as North Dakota Job Service, Career and Technical Education, Bismarck State College, and the North Dakota Governor's Office. Industry participants include some of the 100 plus members of the NDPC, Basin Electric, Montana Dakota Utilities, Great River Energy, Ottertail Power Company, and Butler Machinery, to name a few. This is a highly regarded list of employers and certainly among the most qualified agencies in the state to deal with career education.

7.0 Value to North Dakota

North Dakota ranks ninth in the nation in oil production. The oil and gas industry's production taxes account for approximately 10% of the state's budget. The oil and gas industry employs nearly 5,000 people in North Dakota and the average wage in the industry is nearly 90% higher than the state's average annual wage. However, North Dakota's oil and gas industry is still unknown to many people in our state and as our population has moved to the eastern part of the state, the knowledge and understanding of the oil and gas industry in western North Dakota lessens each year.

Public education programs are needed to promote the industry and create an awareness of the benefits associated with a strong oil and gas industry. Issues such as access to public lands, taxation, and other regulatory requirements depend upon a favorable opinion of industry's ability to conduct its business in an environmentally-friendly manner and provide a safe working environment. In addition, the energy industry's workforce needs are growing as many older workers retire. The industry is a bright spot in the state's future to provide high paying career opportunities. There will be excellent opportunities to keep North Dakota's kids in the state with careers in the energy industry instead of losing them to other parts of the country for better

paying jobs. The NDPC Oil and Gas Education Program is helping industry address the need for public education and address the looming workforce shortage the energy industry is facing.

One of the challenges facing teachers is helping students apply the things they learn. This seminar provides real world North Dakota examples of how geography, math, chemistry, geology, and other classroom topics are used in the workplace and are vital skills for careers in the energy industry. ECAP has developed materials to support energy career exploration; promote career awareness of nontraditional careers for women and minorities; and provide career and academic information to students and parents. The energy education kit provided to schools through the program is a valuable resource for teachers to use when developing coursework and projects relating to the energy industry. This information is critical since most schools have virtually no resources that provide a positive message about the energy industry.

8.0 Management

The NDPC will manage and oversee the project. The Petroleum Council Board of Directors authorized the program and budget. Ron Ness, President of the NDPC, is the manager of the Oil and Gas Education Program. The Bismarck School Board authorizes the agreement between the energy program partners and pays the wages and expenses for Kent Ellis, the coordinator of ECAP. Dale Hoerauf, Director of Career and Technical Education for Bismarck Public Schools, supervises the coordinator for ECAP. Lynn Helms, Director of the North Dakota Industrial Commission Oil and Gas Division, is the primary instructor at the three-day seminar. Other faculty members will be various government, industry, and Forest Service professionals. Job Service has specific requirements that ECAP must achieve in order to access the job training funds. Mr. Hoerauf works with Job Service to track those items and ensure compliance. Wayne Kutzer is the Director of the Career and Technical Education State Department. Mr. Kutzer's agency funding support requires that ECAP has statewide applicability for use of their funds and the program has certainly accomplished that goal by reaching over 6,500 students all over the state on an annual basis.

The University of North Dakota approves the program for eligibility of a graduate credit for the Teacher Seminar through the University. To receive a graduate credit for attending the course, the teachers are required to submit a lesson plan on how they will incorporate what they learned into their classroom. The participants are also required to complete an evaluation of the seminar at the completion of the seminar.

Feedback and comments on the value of ECAP to specific classes and schools is solicited each year from schools where presentations are made. In addition, North Dakota Job Service, who serves as a partner, and other financial supporters of the program, are involved in an annual review process. ECAP has a steering committee comprised of partners. The steering committee meets several times per year to review the program and make recommended changes as needed.

9.0 Timetable

NDPC Oil and Gas Education Program described in this grant request runs from June 1, 2005 through May 31, 2007. The Teacher Education Seminar is held the second week in June each year at Bismarck State College. ECAP is a ten-month program each year that follows the school calendar.

10.0 Project Budget

NDPC Oil and Gas Education Program Budget for 6/1/05 – 5/31/07 **\$210,000**

This is a two-year budget. NDPC has made a two-year commitment to these education programs. This allows for planning for the Teacher Seminar and allows the Bismarck Public School District to plan their budget and personnel needs for ECAP for a two-year period.

NDPC OIL AND GAS EDUCATION PROGRAM BUDGET

EXPENSES:

Program Coordinator Salary/Benefits and General Office Expenses

Salary/Benefits (20 months)	\$ 116,000.00
Travel/Training/Equipment/Staff Development	\$ 28,000.00
Communications/General Office Expenses	<u>\$ 27,000.00</u>
Total Salary/Travel for Coordinator	\$ 171,000.00
Printing/Postage/Material Production	\$ 11,000.00
Facilities/Training/Room Rental	\$ 9,500.00
Energy Education Kits	<u>\$ 8,000.00</u>
Administrative Costs	<u>\$ 10,500.00</u>

(Two days per month for NDPC President
and two days for NDPC Office Manager)

Total Expenses Two Year Budget \$210,000.00

11.0 Matching Funds

The NDPC request is based on a match for this project.

Supporting partners	(52.5%)	\$110,000.00
Oil and Gas Research Council	(47.5%)	<u>\$100,000.00</u>
Total Project Expenses		<u>\$210,000.00</u>

Matching Contributions:	<u>Cash</u>	<u>Other non enumerated</u>
NDPC	\$ 20,000.00	Office Support
North Dakota Landmans Association		
Williston API Chapter		
Dickinson API Chapter		
Tesoro Petroleum		
Butler Machinery		
North Dakota Oil and Gas Producing Counties		
ND Governor's Office		Promotion
Bismarck Public School District	\$ 20,000.00	Secretary/Classroom
North Dakota Job Service	\$ 20,000.00	
Career and Technical Education	\$ 20,000.00	
ND Lignite Plants	\$ 30,000.00	
Basin Electric		
MDU Resources Group		
Great River Energy		
Ottertail Power Company		
Bismarck State College	<u>\$ 10,000.00</u>	
Total Matching Contributions	<u>\$110,000.00</u>	

12.0 Tax Liability

I, Craig Smith, certify that the North Dakota Petroleum Council does not have any outstanding tax liability owed to the State of North Dakota or any of its political subdivisions.

Craig Smith
Treasurer, NDPC

Date

13.0 Confidential Information

The NDPC does not request that any of the information related to this application be confidential.

14.0 Patents Rights to Technical Data

The NDPC does not request to reserve any patent rights to technical data.

15.0 Appendices

North Dakota Energy Career Awareness Program Brochure

NDPC's Teacher Education Seminar 2005 brochure

NDPC's Teacher Education Seminar 2005 agenda

NDPC Teacher Education Seminar Evaluation Form

2005 Energy Career Awareness Partnership Report

NDPC Energy Education Website Link to ECAP Presentation and Teacher Education Seminar Information <http://www.ndoil.org/educ.html>