



ND OIL & GAS ASSOCIATION

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February 24, 2004

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

Subject: Grant Application for the North Dakota Petroleum Council's Teacher Education Seminar

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's Teacher Education Seminar. The North Dakota Oil and Gas Association is the primary sponsor of the annual seminar and is requesting \$5,152 to assist with costs of the 2004 seminar. A \$100 check is enclosed to cover the application fee.

The Teacher Education Seminar is a great opportunity to provide a hands-on look at one of our state's most important industries to classroom teachers across the state. These teachers return to their classroom with valuable information and knowledge about all aspects of the oil and gas industry for their students. It provides an important curriculum piece for classes such as North Dakota studies, math, science, history, and economics. We have received outstanding feedback on the value of this seminar from past participants.

The North Dakota Oil and Gas Association is committed to complete this project if funded as described in the application for funding request. The North Dakota Oil and Gas Association will meet the standards required for funding and follow through with all requests of the Oil and Gas Research Council.

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

Sincerely,

Jeff Herman, President
North Dakota Oil and Gas Association

mr
attachments



Applicant: North Dakota Oil and Gas Association
PO Box 2441, Bismarck, ND 58502
701-223-6380 / 701-226-0006 (fax)
Principal Investigator: Jeff Herman, President
Date of Application: February 24, 2004

North Dakota Petroleum Council's Teacher Education Seminar

Grant Requested
from the
North Dakota Oil and Gas Research Council

Amount Requested: \$5,152

Grant Deadline: March 1, 2004

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1.0 Abstract

To help foster better energy education, the North Dakota Petroleum Council has created an education and outreach program to reach out to teachers by conducting a free three-day seminar. The association also hosts a number of classroom and public tours each year. The participants are teachers and counselors from across the state of North Dakota. The target group is middle school math, science, and history teachers along with fourth grade teachers and school counselors. The seminar curriculum includes an overview of North Dakota's oil and gas industry, history, geology, geophysics, engineering, refining, leasing, gasoline marketing, public lands issues, regulations, and career opportunities. Each 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 response from teachers in recent years has been excellent. The seminar is designed for a maximum of 40 participants and has been reaching that maximum earlier each year. The waiting list also gets longer each year.

The North Dakota Petroleum Council (NDPC) is an umbrella organization that represents the American Petroleum Institute (API) and the North Dakota Oil and Gas Association (NDOGA) in North Dakota. The NDPC Teacher Education Seminar is funded by the NDOGA and managed by the staff of the NDPC; therefore, the funding request is from NDOGA but the program will be managed by the NDPC. The cost of conducting the seminar is nearly \$13,000. The North Dakota Oil and Gas Association is requesting \$5,152 from the Oil and Gas Research Council or 40% of the total costs. The North Dakota Oil and Gas Association will pay 60% of the total cost of the seminar.

2.0 Project Summary

The North Dakota Petroleum Council's Teacher Education Seminar is a three-day seminar in Bismarck, North Dakota on June 7- 9, 2004, to educate teachers about the oil and gas industry. Forty teachers from across the state will be selected to attend the seminar, with the majority of them being middle school math and science teachers.

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

On day two, the participants tour an oil drilling rig and reclaimed well sites in the National Grasslands with industry and U.S. 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 U. S. 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. A representative of the ND Geological Survey (NDGS) is along to discuss the unique geological features of the Williston Basin that holds oil and gas resources.

On the final day, the participants tour the Mandan Refinery and learn about refining and marketing. As a result of the seminar, we hope they develop a better understanding of the complexity of the oil and gas industry, the impact it has on North Dakota's economy, and, hopefully, develop a better understanding of the price 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 from the University of North Dakota for attending the course if they submit a lesson plan on how they will incorporate this information into their classroom.

3.0 Project Description

The 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.

The field tours on the second and third days provide a close-up look at how oil is produced and how the industry operates on the North Dakota Grasslands. The refinery tour shows participants how complicated the refinery process is and completes the “well-to-wheels” lesson plan.

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 the 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 are the types of jobs at a refinery?

Gasoline marketing

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

4.0 Standards of Success

The course evaluations in recent years have been very positive. A longer waiting list each year indicates we are on the right track. 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 helps students understand migration, porosity, and permeability. All the participants are given samples of crude oil, drilling mud, and salt water, a copy of the Petroleum Council's Dakota Prairie Grasslands Oil and Gas Showcase video (the video demonstrates the industry's ability to responsibly produce oil and gas on public lands), and numerous written materials and brochures from the American Petroleum Institute and other organizations.

5.0 Background

The North Dakota Oil and Gas Association has been conducting teacher seminars for the past 14 years with the exception of 1999 and 2000 which were cancelled because of lack of participation. The seminar was revamped in 2001 and Lynn Helms, Director, NDIC Oil & Gas Division, and Kent Ellis, Special Projects Coordinator, Bismarck Public Schools, were brought onboard as co-facilitators. The new focus of the seminar was to incorporate more hands-on activities directed towards giving educators tools and information to take back and be applicable in the classroom.

The North Dakota Oil and Gas Association has primarily funded the seminar with some assistance from the Dickinson and Williston API Chapters and the Landman's Association of North Dakota.

6.0 Qualifications

The North Dakota Oil and Gas Association will manage and oversee the project. The faculty for the seminar includes Ron Ness, Executive Director of the North Dakota Petroleum Council; Kent Ellis, Coordinator for the Energy Education and Career Awareness Partnership with the Bismarck Public School District; Lynn Helms, Director of the NDIC Oil and Gas Division; and Dr. David Ramsett, University of North Dakota. Other faculty members will be various government, industry, and U. S. Forest Service professionals.

7.0 Value to North Dakota

The North Dakota Petroleum Council presents this seminar for educators to learn and bring projects and ideas back to the classroom. We hope they learn more about this important form of energy (petroleum) from this informational, hands-on, and entertaining seminar.

One of the challenges facing teachers is helping students apply the things they learn. This seminar provides real-life North Dakota examples of how geography, math, chemistry, geology, and other classroom topics are used in the workplace and in careers in the oil and gas industry. The seminar develops materials to support energy career exploration; promotes career awareness of non-traditional careers for women and minorities; and provides career and academic information to students and parents.

There is a tremendous void 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 seminar, 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. The Energy Education Kit includes such items as: Project Learning Tree Energy & Society Learning Kit; API Classroom Energy Kit; the 50th Anniversary of the Discovery of Oil in North Dakota booklet; API Running on Oil booklet; API All About Petroleum booklet; DOE Energy Education Resources book; USGS Geographic Information Systems brochure; ND State Map; NDGS North Dakota Through Geological Times poster; USDA Fabulous Fossils poster; NDGS ND Stratigraphic Column poster; ND Petroleum Stock Market Simulation Game; NDPC Facts & Figures brochure; ND Energy Education and Career Awareness Program brochure; NDGS North Dakota Rocks and Mineral Samples; ND Oil & Gas Division North Dakota Trivia Game; API Fuel-Less Video; and Dakota Prairie Grasslands Oil and Gas Showcase video.

Through educating teachers and developing curriculum for their classroom that will create interest as well as a better understanding of the industry and the career opportunities that exist in our state, this seminar will not only help the energy industry meet workforce needs in the future, but will also prepare our young people for quality careers in North Dakota. We all want students to be aware of the tremendous employment opportunities in our state in the energy industry. Retirements during the next decade offer a unique opportunity for young people to have well-paying jobs right here at home.

8.0 Management

The North Dakota Oil and Gas Association will manage and oversee the project. The faculty for the seminar includes Ron Ness, Executive Director of the North Dakota Petroleum Council; Kent Ellis, Coordinator for the Energy Education and Career Awareness Partnership with the Bismarck Public School District; and Lynn Helms, Director of the NDIC Oil and Gas Division; and Dr. David Ramset, University of North Dakota. Other faculty members will be various government, industry, and U. S. Forest Service professionals.

The University of North Dakota approves the seminar for eligibility of a graduate credit through the University. NDOGA is responsible for the finances of the seminar. The Executive Director of the North Dakota Petroleum Council manages the seminar and the administrative assistant coordinates the participant registration, seminar schedule, meeting facilities, meals, transportation, and collects the lesson plans for the University of North Dakota. The Energy Education Kits are assembled and distributed to each participant's school prior to the beginning of the school year. 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.

9.0 Timetable

The 2004 seminar will be held June 7-9 at Bismarck State College in Bismarck, North Dakota. Registration information was distributed in January of this year and applications are being accepted through May 10.

Participants who elect to complete a lesson plan will have two weeks after completion of the seminar to submit a lesson plan to the University of North Dakota to receive one graduate credit from the University for satisfactory completion of the course requirements. The lesson plan will detail how they intend to incorporate what they have learned into a lesson in their classroom.

10.0 Budget

2004 TEACHER EDUCATION SEMINAR EXPENSES JUNE 7 - 9, 2004

EXPENSES:

Printing/Postage:

Typeset/print 5,000 fliers	\$ 900.00	
Bulk mail postage 1,436	350.00	
DPI mailing labels	<u>50.00</u>	
Total Printing/Postage		\$ 1,300.00

Facilities/Food:

BSC Administrative Fee	\$ 400.00	
BSC Meeting Room (\$60/day for 2 days)	120.00	
BSC Housing (\$15/person/2 nights - 25 guests)	750.00	
BSC Food and Beverages	1,300.00	
Opening night social and industry dinner	<u>1,200.00</u>	
Total Facilities/Food		\$ 3,770.00

Miscellaneous:

Harlow's Bus Service – two tour days	\$ 650.00	
Copies and supplies	140.00	
Gift bags and prizes	<u>220.00</u>	
Total Miscellaneous		\$ 1,010.00

50 Energy Education Kits

Rocks & Minerals Card	50 @ \$ 3	\$ 150.00	
Energy & Society Kits	50 @ \$20	1,000.00	
Grasslands Video	50 @ \$12	600.00	
Other Materials	50 @ \$15	750.00	
Case and mailing	50 @ \$11	550.00	
Educational CD Rom	50 @ \$20	<u>1,000.00</u>	
Total Energy Education Kits			\$ 4,050.00

Administrative Costs

UND fee for approving credit	\$ 750.00	
Project Management 100 hrs @ \$20 per hr.	<u>2,000.00</u>	
Total Administrative costs		\$ 2,750.00

TOTAL EXPENSES

\$12,880.00

11.0 Matching Funds

The North Dakota Oil and Gas Association is requesting \$5,152 based on a 60% to 40% funding match for this project.

North Dakota Oil and Gas Association	60%	\$ 7,728.00
Oil and Gas Research Council grant	40%	<u>\$ 5,152.00</u>
Total Project Expenses		<u>\$ 12,880.00</u>

12.0 Tax Liability

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

Craig Smith
Treasurer, NDOGA

Date

13.0 Confidential Information

The North Dakota Oil and Gas Association does not request that any of the information related to this application be confidential.

14.0 Patents and Rights to Technical Data

The North Dakota Oil and Gas Association does not request to reserve any patent rights to technical data.

15.0 Appendices

North Dakota Petroleum Council's Teacher Education Seminar 2004 brochure.
North Dakota Petroleum Council's Teacher Education Seminar 2004 agenda.
University of North Dakota course evaluation.