

TECHNICAL REVIEWERS' COMMENTS
LRC-LXVII (67) – A

**Annual Lignite Energy Council Education Seminar:
Energy, Economics & Environment**

1. **OBJECTIVES**

The objectives or goals of the proposed project with respect to clarity and consistency with North Dakota Industrial Commission/Lignite Research Council goals are: 1 – very unclear; 2 – unclear; 3 – clear; 4 – very clear; or 5 – exceptionally clear.

Reviewer 01-01 (Rating 5)

The proposed project is clearly consistent and supports the goals of the North Dakota Industrial Commission/Lignite Research Council goals of:

- Preserve and create jobs involved in the production and utilization of North Dakota Lignite.

The ability of the industry to maintain itself and grow will be dependent upon having access to an available and skilled pool of talent and its ability to attract and retain that talent in North Dakota and surrounding States. Getting information to students, parents, and career influencers about the quality careers in the energy industry is important to helping students make career decision which will allow them to stay in North Dakota.

Educators, as well as parents and students, do not have knowledge about the careers which are available and many times have some misconceptions about the industry which results in a negative image or no image. This proposed project which focuses on reaching educators and teachers supports and fills gaps in the State's current efforts to reach students, parents and educators with information on careers available in North Dakota.
- Ensure economic stability, growth, and opportunity in the lignite industry

Teachers who are knowledgeable about the Lignite Industry, its importance to the State of North Dakota, and careers it has to offer will be strong advocates and champions both for the industry and insuring that students are aware of the career opportunities it has to offer. They will be an influence with parents and their PEERS on behalf of the industry.

Reviewer 01-02 (Rating 5)

The Lignite Education Seminar is extremely valuable not only to the lignite industry but to the State of North Dakota and to educators across the region. It provides educators an opportunity to gain valuable knowledge about an important industry but more importantly it provides an incredible learning tool to demonstrate the value and applicability of math, science, and other curriculum they teach everyday to their students. In addition, it allows them to learn more about great career opportunities available for students.

2. **ACHIEVABILITY**

With the approach suggested and time and budget available, the objectives are: 1 – not achievable; 2 – possibly achievable; 3 – likely achievable; 4 – most likely achievable; or 5 – certainly achievable.

Reviewer 01-01 (Rating 4)

The approach, timeline and budget available should make the project achievable. The Lignite Energy Council has had considerable successful experience in conducting similar projects in the past. The qualifications of the staff associated with the management of the project are exceptional.

Reviewer 01-02 (Rating 5)

The Lignite Energy Council with more than 20 plus years of conducting an education seminar has developed an excellent program with a timeline and budget that is achievable.

3. **METHODOLOGY**

The quality of the methodology displayed in the proposal is: 1 – well below average; 2 – below average; 3 – average; 4 – above average; or 5 – well above average.

Reviewer 01-01 (Rating 5)

The proposal, both in terms of quality and methodology, demonstrates a thorough understanding of the perceived problem and outlines specific achievable outcomes to address the problem or issues. Considerable coordination with a number of organizations and educators went into development of the proposed project. The fact that the Teacher’s Seminar offers two credits from UND, NDSU, and Minot State University would suggest that the Seminar content, information, and overall value has had considerable review and evaluation from third parties.

The Lignite Energy Council recognized the need and benefits of expanding the Teacher’s Seminar from a two and a half day Seminar to a four day Seminar and the need to incorporate some capital improvements and new technologies into their program.

Reviewer 01-02 (Rating 4)

The Seminar has a good balance of tours and presentations to keep the educators busy and challenged throughout the four days. The presenters are highly qualified with topics ranging across many curriculums for educators which are beneficial with the diversity of the courses and approaches the 120 educators are likely to use to implement the knowledge gained from this course into their classrooms. It’s difficult to determine in the application what types of hands-on methods of application the teachers are shown that could be replicated in their classrooms with minimal expense. If the lecturers don’t use some form of demonstrations that teachers can replicate on how math, science, history and other course work is utilized in the lignite industry it would be a valuable addition.

4. **CONTRIBUTION**

The scientific and/or technical contribution of the proposed work to specifically address North Dakota Industrial Commission/Lignite Research Council goals will likely be: 1 – extremely small; 2 – small; 3 – significant; 4 – very significant; or 5 – extremely significant.

Reviewer 01-01 (Rating 4)

The technical contributions of the proposed work to specifically address North Dakota Industrial Commission/Lignite Research Council goals include:

- Preserve and create jobs involved in the production and utilization of North Dakota Lignite

The Lignite Energy Council proposed project recognition that the Teacher Seminars needed to be expanded from a two and a half day to a four-day Seminar and the

recognition that it needed to incorporate use of new teaching technologies will help insure that teachers are more fully aware of the impact of the lignite industry on our State and the excellent career opportunities that it has to offer.

- Ensure economic stability, growth, and opportunity in the lignite industry

Creating awareness and understanding about the industry, its challenges, its contributions to the State, and awareness about the career opportunities it provides will help insure that there is continued public support for the industry and that students have access to the career information they need to make choices which will allow them to stay in North Dakota.

Reviewer 01-02 (Rating 4)

The contribution of the lignite industry to and to North Dakota of having teachers not only from North Dakota but from across the region learn more about the lignite industry and where their electricity is produced cannot be under-estimated, especially in the current political environment. Exposing educators to the types of skills used in the energy industry and the tremendous career opportunities in the energy industry and the transportability of skills from one sector to another is essential as the bubble of workers begin to retire throughout the next decade. This seminar can help attract tomorrow's workforce if teachers gain an appreciation for the industry and skills required to produce energy from coal.

5. **AWARENESS**

The principal investigator's awareness of current research activity and published literature as evidenced by literature referenced and its interpretation and by the reference to unpublished research related to the proposal is: 1 – very limited; 2 – limited; 3 – adequate; 4 – better than average; or 5 – exceptional.

Reviewer 01-01 (Rating 4)

The proposal demonstrates an understanding of the current initiatives which are underway in North Dakota to help create and awareness of the energy industry and career opportunities it has to offer and where the gaps exist. They have a good understanding of the impact that baby boomer retirements will have on the industry and have put together a process that coordinates with other initiatives to address the issue.

Reviewer 01-02 (Rating 4)

The PI has an excellent awareness of the key issues relating to the lignite industry and how to best present the information to educators.

6. **BACKGROUND**

The background of the investigator(s) as related to the proposed work is: 1 – very limited; 2 – limited; 3 – adequate; 4 – better than average; or 5 – exceptional.

Reviewer 01-01 (Rating 5)

The background of the investigator related to the proposal is exceptional as demonstrated by the fact that they have been successfully doing this for a number of years.

Reviewer 01-02 (Rating 4)

The PI is well-qualified with a degree in education and she has the experience to manage this program and the staff and expertise of the Lignite Energy Council and the membership support and resources to assist as needed.

7. **PROJECT MANAGEMENT**

The project management plan, including a well-defined milestone chart, schedule, financial plan, and plan for communications among the investigators and subcontractors, if any, is: 1 – very inadequate; 2 – inadequate; 3 – adequate; 4 – very good; or 5 – exceptionally good.

Reviewer 01-01 (Rating 4)

The project management plan, the Seminar Agenda and financial budget to conduct the proposal is very good. The background and qualification of staff, a well planned agenda, and detailed budget to back up the proposal were all provided.

Reviewer 01-02 (Rating 3)

The facilities, food, credits, transportation and accommodations are all excellent. It appears all expenses for the educators are covered which is likely a great attraction for attendance which is important since educators have many course options.

8. **EQUIPMENT PURCHASE**

The proposed purchase of equipment is: 1 – extremely poorly justified; 2 – poorly justified; 3 – justified; 4 – well justified; or 5 – extremely well justified. (Circle 5 if no equipment is to be purchased.)

Reviewer 01-01 (Rating 5)

No equipment purchases were identified

Reviewer 01-02 (Rating 4)

No comment

9. **FACILITIES**

The facilities and equipment available and to be purchased for the proposed research are: 1 – very inadequate; 2 – inadequate; 3 – adequate; 4 – notably good; or 5 – exceptionally good.

Reviewer 01-01 (Rating 5)

The Bismarck State College -National Energy Center of Excellence is an ideal facility to host the Teacher Seminars and serve as a base for the Coal Country Tours. Bismarck State College has adequate dorms space to house the teachers participating in the Seminars.

Reviewer 01-02 (Rating 4)

Bismarck State College is an excellent venue and the most valuable part of the seminar is the tours the facilities and allowing the educators to meet the industry representatives.

10. **BUDGET**

The proposed budget “value”¹ relative to the outlined work and the financial commitment from other sources is of: 1 – very low value; 2 – low value; 3 – average value; 4 – high value; or 5 – very high value.

¹ “Value” – The value of the projected work and technical outcome for the budgeted amount of the project, based on your estimate of what the work might cost in research settings with which you are familiar.

Reviewer 01-01 (Rating 4)

The proposed budget is very reasonable when compared to the number of teachers who will participate and is supported by a 50% match for the total project by other source.

Reviewer 01-02 (Rating 1)

I struggle with the proposed budget and the funding request for this otherwise excellent grant request. The budget includes the costs associated with providing all the accommodations and services for four-days for 130 people which is costly. However, the inclusion of what I might assume is 50% of the Education Director's annual salary of \$26,000 in the grant request and not utilizing that as an in-kind match at the very least is troubling. Too include the salary in the grant request and with no cash match by the Lignite Energy Council does not seem appropriate. The time and cost by industry faculty is certainly an expense but not one likely directly imposed on the Lignite Energy Council. The companies involved see the value and send representatives as a benefit to their company and the industry. I would encourage the PI to consider removing the \$26,000 annual salary from the grant request and either include a 12% administrative fee or use the salary as part of the in-kind match. The Lignite Energy Council and the industry certainly have the resources and are capable of using a percent of matching cash to meet the legislative intent of a dollar for dollar match which is what has made this Lignite Research Program successful.

OVERALL COMMENTS AND RECOMMENDATIONS:

Please comment in a general way about the merits and flaws of the proposed project and make a recommendation whether or not to fund.

Reviewer 01-01 (Rating: FUND)

I would strongly recommend that this project be considered for funding. Creating a favorable image for the Lignite Industry with educators and students will be critical to the long term success of the industry in meeting their talent needs and gaining favorable public opinion supporting the use of lignite as a stable and consistent source of electricity and synthetic natural gas.

Students, parents, educators, and career decision influencers have a general lack of knowledge about the career opportunities available in North Dakota. The Energy Education Program has been successful in getting information to students and parents about the career opportunities in the energy industry. The Career Specialist initiative has success in connecting individuals representing specific careers from the energy industry directly with students in the classroom via web cam technology and YouTube to have a career conversation.

This proposed project represents a critical component of a holistic approach to improving the awareness and image of the industry and creating an awareness of the career opportunities available in the industry by giving teachers and educators the opportunity to see the industry and careers available first hand and to hear from an panel of experts on a wide array of topics important to the industry and State.

Reviewer 01-02 (Rating: FUND)

No further comment – see above

Financial commitment from other sources – A minimum of 50% of the total project must come from other than Industrial Commission sources to meet the program guidelines. Support less than 50% from Industrial Commission sources should be evaluated as favorable to the application.