

TECHNICAL REVIEWERS' COMMENTS LRC-LXXVIII (78) – C

"Annual Lignite Energy Council Education Seminar: Energy, Economics and 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)

It was very easy to see the goals of the project were in line with the North Dakota Industrial Commission goals. They seemed to be copied and pasted from the mission statement. I think it would be hard to miss if the wording wasn't the same. It's made very clear in the abstract that further education will create jobs.

Reviewer 01-02 (Rating 4)

In the framework/understanding of current challenges with potential EPA legislation affecting lignite production in North Dakota, increased awareness and education of regional teachers certainly contributes to the preservation of current jobs in the production and utilization of North Dakota lignite. Use of lignite information in classes by participating teachers will also "plant the seed" among students and contribute to a stable pipeline of future workforce. A captive audience of 130 teachers for four days also is a prime opportunity to market the industry.

Reviewer 01-03 (Rating 5)

Well spelled out plan to provide education professionals with a better understanding of the industry and the employment opportunities available.

Audience Response System allows the staff to track changes in opinions about the industry, what participants have learned throughout the seminar and what they are interested in learning about.

Participants develop lesson plans and are provided with resource materials. Majority of participants in 2013 and 2014 seminars indicated they would make use of materials and knowledge gained when they returned to their classrooms.

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)

There is a very clear timeline of when the funds would be used. The only reason I did not select a "5" is if for some reason the grant would be delayed. I also only selected "4" because of how the budget is laid out - even though this isn't about the budget and how it is displayed - I do feel there is some uncertainty about the requested funds, which I will address in the final comments.

Reviewer 01-02 (Rating 5)

A 4-day seminar with sufficient planning and wrap-up time is certainly achievable. Budget seems reasonable and allocated appropriately.

Reviewer 01-02 (Rating 4)

Yes, four-day seminar offers a variety of methods of imparting information – teaming up with industry representatives to provide lectures, tours, encouraging development of lesson plans, and providing additional educational resources.

Enrollment preference given to teachers of math, science and social studies. Program reviewed by UND School of Business and Public Administration.

Very reasonable facility cost. Transportation, materials and faculty budgets is realistic.

Unsure why are they are paying for the teachers' continuing education credits? Is this a standard offering for such education?

Applicant's Response: In short, yes, paying for the credits for participants has increasingly become standard operating procedure for such seminars. Comparatively, the North Dakota Petroleum Council's Seminar and the North Dakota Energy Curriculum Seminar also pay for their attendees' credits. In large part it is a marketing tool to encourage and ensure participation from a larger pool of applicants. Additionally, all costs including mileage are covered for out-of-state teachers (only) to encourage larger participation from that target market. Mileage for out-of-state teachers is paid for by the sponsoring utility.

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 4)

I'm very impressed by the order in which the seminar will progress. I think it's well thought out and it seems as if qualified speakers will present. However, I would change the order of the syllabus somewhat to have geology be one of the first presentations on Day 1 and regulations and reclamation towards the end of Day 1. It would progress from the start of coal to the end. I do, understand though that schedules may not allow that to happen and that's why I selected "4".

Reviewer 01-02 (Rating 3)

I would have liked to have seen more regarding the strategy of targeting out-of-state teachers and also the specific survey results of past teachers from Minnesota, South Dakota, Montana, Wyoming and Iowa. Specific metrics related to the 70% of teachers that incorporated seminar information into teacher plans or the 43% that had used activities from the seminar would be especially enlightening contrasting whether the out-of-state teachers were as receptive as the in-state teachers.

Applicant's Response: Each year, the Seminar's administrator works closely with recruitment representatives with each of the electric utilities that have customers in targeted states. The Lignite Energy Council provides these recruiters with printed and electronic promotional material. The recruiters are responsible for disseminating the information to schools and teachers within their service territories. Applicants are directed to the Lignite Energy Council's website (<https://www.lignite.com/teachers>) to complete an online application form or print and submit a completed application form. In the past, a portion of the recruitment budget has been dedicated to printed material (approximately \$7,200 for 2014). Staff are looking at additional methods to recruit such as social media ads, direct email marketing and advertisements in school district publications. The goals are to both decrease the portion of the budget dedicated to recruitment and use recruitment money in a more effective method.

Currently, research is being conducted on the past five years participants to gauge responses to questions such as if expectations were met, if material is being incorporated into the classroom and what can be done to improve the seminar. Crosstabs will be available to breakdown responses by state, teaching subject and grade level.

It was slightly unclear on what in-state teachers were required to cover for their expenses. Budget indicates “teacher presenters” get mileage, but not in-state teachers? Also would have liked to have seen information how/where marketing is done to attract teachers to register.

Applicant’s Response: In-state teachers are only required to pay for their expenses of getting to and from the Seminar. All teachers, regardless of state, are provided with free lodging, meals during the Seminar and free graduate credits. Additionally, sponsoring utilities reimburse out-of-state participants’ mileage to and from the Seminar, again a method of recruiting that target audience. Teachers who have taken part in the Seminar in prior years are recruited to return to teach the portion of the Seminar that discusses how participants should use their information to develop their lesson plans. These teacher presenters are reimbursed mileage.

In the past, marketing has been done primarily through direct-mail. Each North Dakota principal received a letter and several promotional brochures to post in teacher lounges or deliver to individual teachers. Additionally, utility sponsors mailed out brochures and advertised in direct-mailers. The 2015 recruitment will consist primarily through digital promotion and recruitment.

It was very good to see that an audit of the program is planned with multiple stakeholders.

Reviewer 01-03 (Rating 4)

Using a variety of training methods – lectures, tours, providing resources. Highly qualified speakers lead the lecture series. Tour is actual facilities. In the process of updating educational materials provided to teachers. By using website analytics and following up with teachers who download the materials, will be able to judge usability of said material.

Also, in the process of forming an advisory committee comprised of industry and education professional to establish improved and expanded program goals and projected outcomes.

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 5)

There is no better audience to reinforce these goals than teachers. Educating teachers, who influence and teach our young minds, that lignite resources are good for North Dakota by creating and keeping jobs, provides stability and growth for the better welfare of North Dakota. I agree that it is incredibly important for these tools to be in the hands of teachers to ensure students are engaged and educated in their future job possibilities.

Reviewer 01-02 (Rating 3)

It’s great that surveys are being conducted and real-time feedback is being collected during the seminar to gauge industry impressions, value of content, etc., and provide quantitative metrics. The seminar has a good reach of teachers, which in turn provide exponential reach of their students, addressing LRC goals of preservation of jobs, stability and growth, and also identifying pockets of the state or elsewhere where more marketing would be beneficial. I hope that the survey/audience response system includes general geographic information of the responder.

Reviewer 01-03 (Rating 3)

Geared towards marketing/education/promotion of the industry. Not a scientific or technical contribution.

5. **AWARENESS**

The principal investigator's awareness of other 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 3)

I did not see referenced literature or unpublished research referenced within the proposal. However, the proposal did provide statistics as far as attendance and grades reached - it also provided statistics on production. Upon re-read, I did see one referenced NDSU study - no footnotes to easily locate within the document.

Reviewer 01-02 (Rating 4)

The Lignite Energy Council has been doing the seminar since 1986 and has made updates in recent years based on survey feedback – they are familiar with what teachers have found useful and what they have wanted to see changed.

Reviewer 01-03 (Rating 4)

Yes, well qualified individuals employed in the promotion of the industry.

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 4)

I did not see how long Jason Bohrer has been with Lignite Energy Council but his resume is impressive. Mike Jones and Kay LaCoe both have good experience with the Lignite Energy Council. I think more detail and background could have been given on the staff of the Lignite Energy Council.

Reviewer 01-02 (Rating 4)

They have a long history of working with the proposed work.

Reviewer 01-03 (Rating 4)

Yes, well qualified individuals employed in the promotion of the industry.

7. **PROJECT MANAGEMENT**

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

Reviewer 01-01 (Rating 3)

I don't feel as if this section applied to this proposal. It lays out who management is - but not how the seminar is managed or communicated to speakers, teachers, etc. While the budget may be the financial plan, I don't see a milestone chart or the need for one since it's a four-day event. Minimal application lead to my choosing a "3".

Reviewer 01-02 (Rating 3)

No comment

Reviewer 01-03 (Rating 4)

Have improved methodology or made plans to do so to ensure positive, worthwhile results.

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)

Not applicable.

Reviewer 01-02 (Rating 5)

No comment

Reviewer 01-03 (Rating 3)

Contributes to the Lignite Research Council's marketing goals. (Reviewer is referring to the materials & supplies rather than to equipment.)

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)

BSC has top-notch facilities, and since it is the Energy Center of Excellence, it is only fitting this seminar be held at this facility.

Reviewer 01-02 (Rating 5)

No comment

Reviewer 01-03 (Rating 4)

Yes, good facilities being utilized and appropriate expenditures.

10. **BUDGET**

The proposed budget value 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.

Reviewer 01-01 (Rating 3)

I did not like how the budget was laid out. I don't think in-kind donations should be listed as equal to total costs of seminar. \$10,000 seemed a little high to me for 1-2 hours of time on one day - unless they travel on the tours on the last day. The cost of the seminar is essentially being paid for by NDIC with donations of time made by professionals. The budget section was the least clear to me.

Reviewer 01-02 (Rating 5)

Education is of utmost importance, and this seminar seems to reach a good amount of teachers, which in turn reach hundreds of (or 1,000+) students per year – not to mention the teachers communicating with their families and friends about their experiences. This gets factual information and real experiences into the minds of the future workforce.

Reviewer 01-03 (Rating 4)

Match provided by industry.

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 absolutely recommend funding of this proposal. I had to look very hard to find something to critique within the proposal. I do recommend more creative language when communicating how the proposal meets the Commission's goals. While copying and pasting the mission makes it very clear, it may be better served to add to those statements by briefly explaining how those goals will be reached as they directly relate to the proposal.

The description of the project was not a clearly marked section within the table of contents or within the document as stated within the application format. I believe that was possibly the syllabus - but it wasn't as abundantly clear as the other sections. I did not like how the budget was laid out either. I don't think they should have differentiated between expenses & costs--made the budget a bit confusing. Nevertheless, this is clearly an important program to keep in line with the goals of NDIC for the LEC. This is a highly regarded program and the funding is obviously highly critical towards its success.

Reviewer 01-02 (Rating: FUND)

Overall, it seems like a good program – good reach of people for an appropriate value. I would have liked to have seen more specific survey results and how that's driven changes to the seminar format in recent years. Also as mentioned before – specific information on why they target out-of-state teachers and how receptive those teachers are. I felt there was a lack of information regarding what the “education website” was – where it was located, how often it was used to date, etc. But was impressed to see that seminar participants develop lesson plans that are shared with others. The inclusion of the career-focus portion of the schedule is good.

Reviewer 01-03 (Rating: FUND)

Recommend funding of the project.

Encourage continued measuring of results to ensure training is having the desired impact. Would consider surveying new industry employees as well to learn how and why they chose the profession, and what those employees believe would have helped them prepare for such a career.