

TECHNICAL REVIEWERS' RATING SUMMARY

G-012-A

Energy and Transmission Needs Study on North Dakota Oil Development

Submitted by: Basin Electric Power Cooperative

Principal Investigator: Pace Global Energy Services, LLC

Request for \$49,000, Total Project Costs: \$201,600

Duration: 3 months

Rating Category	Weighting Factor	Technical Reviewer			Average Weighted Score
		12A-01	12A-02	12A-03	
Objective	9	5	3	4	36.0
Achievability	9	4	3	2	27.0
Methodology	7	4	3	5	28.0
Contribution	7	5	2	4	25.7
Awareness	5	3	3	5	18.3
Background	5	4	3	5	20.0
Project Management	2	3	3	4	6.7
Equipment Purchase	2	5	5	5	10.0
Facilities	2	5	0	5	6.7
Budget	2	4	3	5	8.0
Average Weighted Score		213	141	205	186.3
Maximum Weighted Score		250	250	250	250

OVERALL RECOMMENDATION

FUND	X		X
FUNDING TO BE CONSIDERED			
DO NOT FUND		X	

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

Reviewer 12A-01 (Rating: 5)

The objective of the proposed work is to assess future oil development activities in the Williston Basin and to determine power demand and delivery implications. The goals are exceptionally clear and consistent with Council goals; 1) promote development and use of ND O&G resources, 2) preserve and create jobs, 3) ensure economic stability and growth, and 4) promote public awareness of the benefits and opportunities of the O&G industry.

Reviewer 12A-02 (Rating: 3)

The goal is more an issue of resource planning for the applicant than research for the oil and gas industry; appears also to be overly broad in its assessment of “major environmental factors” and somewhat optimistic in being able to assess 20 year trends for price and exploration activity.

Basin’s Response

There are probably not many environmental factors to assess other than electricity is better than gas powered engines on an environmental basis. But the study will reveal if there are other environmental issues too.

Reviewer 12A-03 (Rating: 4)

The objectives of the proposed project match at least 7 of the 10 goals and objective priorities of the council.

2. *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 12A-01 (Rating: 4)

With the approach suggested and time and budget available the objectives are most likely achievable. The strength of the proposed work is the knowledge of the utility industry provided by Basin. An unknown element is the commitment and cooperation of the oil and gas industry.

Reviewer 12A-02 (Rating: 3)

Some of the information that will be sought may be viewed as proprietary and unavailable to the applicant (but perhaps to the contractor under confidentiality agreements). Additionally, to the extent long-term information is sought, much of this information should be available through NDIC Oil and Gas Division and OMB in its budget forecast (through Economy.com), and recent studies conducted regarding price differentials that occurred in 2006.

Basin’s Response

The NDIC or the NDOGD does have a lot of information on what Pace Global needed to describe historical activities. We visited with NDOGD extensively and plan to use a lot of their information as we always do. However, we are not aware nor have they made us aware of any 15-20 year forecast of oil and gas activities. We highly respect the NDOG staff and will remain in close communications with them. The Office of Management and Budget (OMB) makes 2-3 year forecasts of revenue. Basin Electric needs 15-20 years of load forecasts in order to prudently develop generation and transmission assets to meet consumer needs and to obtain financing to build the required facilities. The purpose of Pace Global’s involvement is to have an independent and objective assessment from a qualified and experienced source.

Reviewer 12A-03 (Rating: 2)

The time allotted for data gathering interviews appears to be 3-4 weeks too short considering current oil industry activity levels and the difficulty other researchers have encountered recently when trying to gather oil and gas operator and service company input.

Basin's Response

Basin Electric and Pace Global commenced this study in the first part of February with a letter of commitment to Pace Global. The conclusions of this report will be available to Basin Electric in mid-May. That makes about 12 weeks.

3. *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 12A-01 (Rating: 4)

The quality of the methodology is above average for a proposal of this type, cost and duration.

Reviewer 12A-02 (Rating: 3)

Basin and its members have had to engage in resource planning processes for years, so the application reflects that experience. Additionally, applicant members are presently receiving requests for incremental power as described in the application. Some insight into the potential load growth is reflected in the application, but yet it also speaks to “hot plays” in Tioga, Bowman and Belfield areas, which may overlook other areas in the state with equal load growth potential. Assessment of some factors (e.g. completion costs, environmental factors, and 20 year trends) detracts from the quality of the application.

Basin's Response

Pace Global is breaking the forecast into three parts: projected loads of current and existing wells, projected new load levels of gas processing plants and infrastructures, and projected loads of new wells. So this will cover all loads and all formations.

Reviewer 12A-03 (Rating: 5)

The proposal steps are laid out in a very logical progression with quality control and intermediate reporting at several intervals as needed.

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

Reviewer 12A-01 (Rating: 5)

The technical contribution of the proposed work could be extremely significant. The proposed work could establish oil and gas generation potential in the Williston basin, which would assist the utility industry. However, the utility industry is only one sector capable of benefiting from the information.

Reviewer 12A-02 (Rating: 2)

As stated above, the assessment is more of a resource planning effort for the applicant than a goal of the oil and gas research council. Additionally, price trends for 20 years are difficult if not impossible to determine; capacity of refining and pipelines has been or is being done by other sectors/participants in the industry; inventory of new technology is ever evolving.

Basin's Response

Pace Global and Basin Electric realize that oil price trends are difficult to project. That is why Pace Global is doing a three scenario load forecast on low, baseline and high oil prices. Technology adaptation does follow oil prices as they increase.

Reviewer 12A-03 (Rating: 4)

The type curves, life cycle profiles, recovery factors, price forecasts, pipeline and refinery capacity forecasts, environmental evaluations, and new technology review will be very useful to ND oil and gas operators in many areas beyond this study.

5. *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 12A-01 (Rating: 3)

Little information is provided in the proposal to assess the PI's awareness.

Reviewer 12A-02 (Rating: 3)

No comment

Basin's Response

Basin Electric has worked with Pace Global on energy industry load forecast studies and has been very pleased with their past work. Their website is www.paceglobal.com for further information.

Reviewer 12A-03 (Rating: 5)

Pace Global has both broad world wide consulting experience and specific Rocky Mountain region load forecasting experience. In addition they have an established working relationship with Basin Electric.

6. *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 12A-01 (Rating: 4)

BASIN and Pace Global combine to provide a collection of PIs with better than average capability to accomplish the proposed work.

Reviewer 12A-02 (Rating: 3)

No comment

Basin's Response

Basin Electric has worked with Pace Global on energy industry load forecast studies and has been very pleased with their past work. Their website is www.paceglobal.com for further information.

Reviewer 12A-03 (Rating: 5)

The team proposed for conducting this study has an exceptional amount of experience. They each have decades of experience in their assigned areas.

7. *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 12A-01 (Rating: 3)

The plan is adequate for this proposal. However, additional well-defined management, financial and communication tools would assist project management activities.

Reviewer 12A-02 (Rating: 3)

Time frames and communication plan is adequate and seem appropriate, but I recommend a formal presentation to the Oil and Gas Research Council, upon completion, if the project is funded.

Basin's Response

Pace Global would be available to give a formal presentation to the Oil and Gas Research Council if needed, as well as a prepared report.

Reviewer 12A-03 (Rating: 4)

The resources assigned to the project team should be very adequate and the plan includes a dedicated project manager to keep the project on track and moving forward.

8. *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 12A-01 (Rating: 5)

Equipment purchase is not included in the budget.

Reviewer 12A-02 (Rating: 5)

No equipment is purchased.

Reviewer 12A-03 (Rating: 5)

No equipment purchases are planned.

9. *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 12A-01 (Rating: 5)

The facilities and support staff provided by BASIN and Pace are exceptionally good.

Reviewer 12A-02 (Rating: 0)

NOT APPLICABLE

Reviewer 12A-03 (Rating: 5)

The necessary facilities and equipment are already in place and available to complete the project proposal.

10. *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. (See below)*

Reviewer 12A-01 (Rating: 4)

The proposed budget is of high value. This budget could be of “very high value” if funding from the O&G industry was involved.

Reviewer 12A-02 (Rating: 3)

The assessment is appropriate for the applicant to achieve the objectives described in the application (efficient use of capital resources to meet long term customer load growth resulting from oil and gas activity). However, much of the assessment has been done, or is being done to the extent realistic 20 year trends can be determined. The information that will be assembled will be of great value to the applicant, but I see modest value to the oil and gas industry and goals of the Oil and Gas Research Council (as described by law).

Reviewer 12A-03 (Rating: 5)

The proposed project will provide great value to North Dakota’s oil and gas industry by helping to assure adequate and affordable electrical power for the future, but as noted in number 4 the information and analysis will be very useful to the industry in many other ways.

Section C. 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 12A-01 (FUND)

The strength of the proposed work is the knowledge and capability BASIN and Pace bring to the project. An understanding of O&G potential in the Williston Basin is important to utility planning. There exist the potential for non-utility industries and government entities benefiting from the information.

The weakness in the proposed work is the lack of awareness of current activities, technologies and the O&G resources demonstrated in the written proposal. In addition, the proposal could be strengthened with participation and funding from the O&G industry.

Reviewer 12A-02 (DO NOT FUND)

See comment above

Reviewer 12A-03 (FUND)

The proposed project meets or exceeds the metrics of the council in every way except one. The short time allotted for data gathering interviews is likely to result in missed deadlines or the need for a lot of additional resources.

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.*

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

The following letter was received from Basin Electric Power Cooperative:

Dear Ms. Fine:

In response to the technical reviewer (12A-02) reason for not funding, Basin Electric and Pace Global maintain that we are aware of the current activities, technologies and the Oil & Gas resources pertaining to the new oil and gas development. The study is designed to refine the magnitude of the resources needed to address that development. The proposed study included an interview with the North Dakota Oil and Gas Division to gain knowledge from them about this increasing oil and gas development. Basin Electric has continued contact with the Division on the status of the oil and gas activities.

To properly plan transmission to serve the new oil and gas development, a 20-year projection on the oil and gas development is vitally needed. The study will propose three scenarios based on the interviews and using all relevant information and inputs gained from the study.

The Oil and Gas industry has been participating with us on a continuing basis. We have learned that electricity is the preferred method for them to meet their energy needs. The study will give information on the likelihood of oil and gas development in the Bakken formation. This information will then give us a basis for developing the needed transmission and generation needs to serve the new load.

Attached are some more specific comments on issues the reviewers made in their assessment.

Sincerely,

s/s David D. Raatz

David D. Raatz
Manager, Marketing and Power Supply Planning
Basin Electric Power Cooperative