

## Technical Reviewers' Rating Summary

Proposal Number	<b>G-39-04</b>
Application Title	<b>Expansion of EERC's Gathering Pipeline Leak Detection Demonstration Project</b>
Submitted By	<b>Energy &amp; Environmental Research Center</b>
Request For	<b>\$248,559.00</b>
Total Project Costs	<b>\$248,559.00</b>

### Section A. Scoring

Statement	Weight	G-39-04A	G-39-04B	G-39-04C	Avg. Score
1. Objectives	9	4	4	4	36
2. Achievability	7	4	4	4	28
3. Methodology	8	3	4	4	29
4. Contribution	8	3	4	3	26
5. Awareness / Background	5	4	4	3	18
6. Project Management	3	4	4	3	11
7. Equipment / Facilities	2	3	3	4	6
8. Value / Industry - Budget	4	4	3	4	14
9. Financial Match - Budget	4	3	1	3	9
<b>Avg. Weighted Score</b>		<b>178</b>	<b>182</b>	<b>180</b>	<b>180</b>
<b>OVERALL</b>					
FUND			<b>X</b>	<b>X</b>	
TO BE CONSIDERED		<b>X</b>			
DO NOT FUND					

## Section B. Ratings and Comments

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:

**“Two tasks are clearly laid out in the Abstract section consisting of: 1) Create and populate a web database to match technology with pipeline needs and 2) add an additional industry partner and leak detection technology to an already in-progress leak demonstration project. The tasks are to meet the goal of bridging the gap between vendor technology claims and operational needs of pipeline operators. Five clear objectives are listed to meet the goals and tasks.”**

**- Reviewer: G-39-04A**

**- Rating: 4 (Very Clear)**

**“”**

**- Applicant**

**“I can clearly see the application aligning with the following OGRP goals: -Promote efficient, economic, and environmentally sound exploration, development, and use of North Dakota’s oil and gas resources. -Encourage, and promote the use of new technologies and ideas that will have a positive economic and environmental impact on oil and gas exploration, development, and production in North Dakota.”**

**- Reviewer: G-39-04B**

**- Rating: 4 (Very Clear)**

**“”**

**- Applicant**

**“The objectives and concepts are reasonably clear. In my opinion, the project clearly fits with EERC’s goals and ties closely with other ongoing projects previously funded. The project also ties well with the current interests of the North Dakota Legislator. Clearly preventing releases (leaks) through design, construction and preventive mitigative measures to keep the product in the pipe is primary goal. Should those measures fail early detection is important to mitigate any damage. ”**

**- Reviewer: G-39-04C**

**- Rating: 4 (Very Clear)**

**“”**

**- Applicant**

2. With the approach suggested and time and budget available, the objectives are:

**“The timeline seems very reasonable and will most likely be met. EERC has much experience in performing projects like this and I believe will most likely achieve their goal.”**

**- Reviewer: G-39-04A**

**- Rating: 4 (Most Likely Achievable)**

**“”**

**- Applicant**

**“Timeline and budget appeared to provide reasonable resources for the completion on the application objectives.”**

**- Reviewer: G-39-04B**

**- Rating: 4 (Most Likely Achievable)**

**“”**

**- Applicant**

**“The budget and timing is most likely achievable given the scope. I suspect that Vendor participation may be more difficult than initially anticipated in the proposal.”**

**- Reviewer: G-39-04C**

**- Rating: 4 (Most Likely Achievable)**

**“”**

**- Applicant**

3. The quality of the methodology displayed in the proposal is:
- “EERC has performed many types of projects for the OGRC and their methodology is sound. They are currently part of three ongoing projects, which are summarized in this request, two of which are total valued over \$100,000,000. Also mentioned is they are patterning the web database after their widely acclaimed Gas-Flaring Reduction Technologies database previously created for another project.”**
- Reviewer: G-39-04A**
- Rating: 3 (Average)**
- “**
- Applicant**
- “Methodology outlined in the applications appears very appropriate to reach the desired outcomes. ”**
- Reviewer: G-39-04B**
- Rating: 4 (Above Average)**
- “**
- Applicant**
- “The methodology is above average. The EERC has similar initiatives that should fit well with this proposal. ”**
- Reviewer: G-39-04C**
- Rating: 4 (Above Average)**
- “**
- Applicant**

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:

**“The proposed work is to provide a database of existing technologies that can be used either by industry or the State on operating or regulating liquid pipelines. No new technology will be developed from this, but it will provide a one-stop-shop that can be used to find existing technologies. It also involves testing of an existing technology to prove it merits (or not). The scope of work was mandated by the legislature, so the work very specifically addresses NDIC/OGRC goals. ”**

**- Reviewer: G-39-04A**

**- Rating: 3 (Significant)**

**“”**

**- Applicant**

**“”**

**- Reviewer: G-39-04B**

**- Rating: 4 (Very Significant)**

**“”**

**- Applicant**

**“I believe this project clearly fits with The North Dakota Industrial Commission/Oil and Gas Research Council goals; however, I wasn’t compelled to rate it as very significant or extremely significant. ”**

**- Reviewer: G-39-04C**

**- Rating: 3 (Significant)**

**“”**

**- Applicant**

5. The background of the principal investigator and the 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:

**“EERC's Mr. Almlie has exceptional qualifications for this project and works for an organization that is uniquely qualified to carry out projects such as this one.”**

**- Reviewer: G-39-04A**

**- Rating: 4 (Better Than Average)**

**“”**

**- Applicant**

**“Mr. Almlie and his team appear to have the required expertise to reach the desired application outcomes.”**

**- Reviewer: G-39-04B**

**- Rating: 4 (Better Than Average)**

**“”**

**- Applicant**

**“The proposal does not reference many other research activities or other published by other groups (e.g. Pipeline Research Council International, Us DOT Leak Detection Study – DTPH56-11-D-000001, etc.). ”**

**- Reviewer: G-39-04C**

**- Rating: 3 (Adequate)**

**“”**

**- Applicant**

6. 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:

**“A detailed timetable is described and also included in graphical form, very clearly spelling out the tasks to be performed and when they are to be performed and completed.”**

**- Reviewer: G-39-04A**

**- Rating: 4 (Very Good)**

**“”**

**- Applicant**

**“Milestones and planning materials appear reasonable and clearly defined in the application.”**

**- Reviewer: G-39-04B**

**- Rating: 4 (Very Good)**

**“”**

**- Applicant**

**“The Time table in figure 1. Preliminary project time table is adequate and expected for any project proposal. However, the budget doesn’t tie well to the time table. This is not a significant issue given the scope which is highly dependent on labor. However, I could not rank it higher than “adequate” for that reason.”**

**- Reviewer: G-39-04C**

**- Rating: 3 (Adequate)**

**“”**

**- Applicant**

7. The proposed purchase of equipment and the facilities available is:

**“None really needed for this project.”**

**- Reviewer: G-39-04A**

**- Rating: 3 (Justified)**

**“”**

**- Applicant**

**“Majority of the funding is dedicated to labor costs with no major equipment or facility purchases.”**

**- Reviewer: G-39-04B**

**- Rating: 3 (Justified)**

**“”**

**- Applicant**

**“The budget included (on page 12) indicates that over 90% of the budget is Labor costs. Equipment, if any, is insignificant. Therefore I provided a “well justified” ranking. ”**

**- Reviewer: G-39-04C**

**- Rating: 4 (Well Justified)**

**“”**

**- Applicant**



8. The proposed budget “value”<sup>1</sup> relative to the outlined work and the commitment from other sources is of:

**“The budget to perform the work is well specified and backed up with supporting data in Appendix B. No commitment from others as specified from original legislative mandate is assumed as stated in the document.”**

**- Reviewer: G-39-04A**

**- Rating: 4 (High Value)**

**“”**

**- Applicant**

**“I can see the value of the application to the State of ND even without matching funds. There is a high level of coordination/participation with private industry partners even though those funds/resources do not appear in the application as matching (e.g. Flexsteel LDS demonstration)”**

**- Reviewer: G-39-04B**

**- Rating: 3 (Average Value)**

**“”**

**- Applicant**

**“I would rank this as “high value” should the information be implemented in the field without a governmental mandate. I am highly suspect of the industry implementing measures without mandates. However, the results should provide the legislator with a good resource should they choose to mandate specific requirements or even performance based requirement.”**

**- Reviewer: G-39-04C**

**- Rating: 4 (High Value)**

**“”**

**- Applicant**

9. The “financial commitment”<sup>2</sup> from other sources in terms of “match funding” have been identified:  
“No financial commitment from others as stated in the abstract. It says that due to the original legislated effort, cost share is not required, so I'm taking their word that this is the case.”  
- *Reviewer: G-39-04A*  
- *Rating: 3 (Average Value)*  
“”  
- *Applicant*  
“No matching funds”  
- *Reviewer: G-39-04B*  
- *Rating: 1 (Very Low Value)*  
“”  
- *Applicant*  
“The proposal does not address matching funding other than anticipated industry contributions to maintain the database after in the initial 12 month period of performance (page 11). Therefore I would rank this as “Average Value.””  
- *Reviewer: G-39-04C*  
- *Rating: 3 (Average Value)*  
“”  
- *Applicant*

## General Comments

“The work required was specified by legislative mandate and it clearly helps meeting the goals of the NDIC/OGRC with the NDIC now being actively involved with regulating pipelines within the State. The abstract states that due to originally legislated effort, cost share is not required on this project. I evaluated the project assuming this is true.

The statement made in the write-up that smaller pipeline operators don't always know the existing technologies that are out there or the vendors don't understand the smaller operators needs is definitely true. In my career I designed and operated gathering system lines on both sides. A well built and maintained web database should be able to help all those involved.

EERC is well suited to expand their existing work and add the items from this project into the final results.”

**- Reviewer: G-39-04A**

“Technology Database Comment: I witnessed significant value in a similar database by the EERC for gas capture technologies. I am hopeful that a pipeline technology database would prove to be very beneficial as companies design and maintain ND's pipeline infrastructure using the best available technologies.

Fourth Industrial Partner Comment: I am familiar with the annual space leak detection concept by Flexsteel and would see great value in researching/demonstrating it's applicability in ND's gathering pipeline network. ”

**- Reviewer: G-39-04B**

“There has been and continues to be research in this area by many groups. This project should help in keeping the emphasis on leak detection technology moving forward.

The advance in remote monitoring technology and the cost associated are becoming more and more reasonable. This project may help in communicating that. One of the anticipated outcomes is that the industry will implement some of these leak detection methods on their own. Call me cynical, but I am skeptical that the industry will embrace it fully without a mandate.

As stated above design, construction and preventive and mitigative measures are the main goal. If done properly releases will be minimized. However, early detection is critical to afford people the time to effectively mitigate the impacts of a release. The EERC has demonstrated good faith and integrity on past projects. ”

**- Reviewer: G-39-04C**

*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. A commitment of support from industry partners equates to a higher value.*

*2 “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; industry partnerships equates to increased favorability.*