

# Technical Reviewers' Rating Summary

Proposal Number  Application Title  Submitted By   
 Request For  Total Project Costs

## Section A. Scoring

Statement	Weighting Factor	G-50-07A	G-50-07B	G-50-07C	Average Weighted Score
1. Objectives	9	2	4	3	27
2. Achievability	7	2	5	2	21
3. Methodology	8	4	5	3	32
4. Contribution	8	4	4	3	24
5. Awareness / Background	5	2	4	2	10
6. Project Management	3	3	4	3	9
7. Equipment / Facilities	2	3	5	3	6
8. Value / Industry - Budget	4	4	3	3	12
9. Financial Match - Budget	4	3	3	3	12
<b>Average Weighted Score</b>		<b>149</b>	<b>209</b>	<b>138</b>	<b>165</b>

Total: 50

**250 possible points**

## OVERALL RECOMMENDATION

FUND

X

FUNDING TO BE CONSIDERED

X

X

DO NOT FUND

## Section B. Ratings and Comments

- 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:

The original goals of the Wise Roads project are clear and align with the OGRP stated goals and purposes. The applicant in this case, is seeking additional funds to hire personnel to implement the original Wise Roads project.

- Reviewer: G-50-07A

- Rating: 2

This seems like a follow up to the previous application. Increased frequency of weather stations would be very useful.

- Reviewer: G-50-07B

- Rating: 4

The addition of the meteorologist aims to ensure the installed technology is best utilized to have a positive impact on oil and gas exploration.

- Reviewer: G-50-07C

- Rating: 3

As Reviewer C notes, the meteorologist's expertise is essential to the success of the project. The individual hired is young, but has hands-on experience as an instrument technician, working with the weather stations and the data they generate. As an undergrad research assistant, he also wrote and edited computer programs to ensure the desired results were produced. He also worked as a teaching assistant, so is quite capable of the training responsibilities required of the job.

- Applicant

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

The amount of data generated by the new stations and a lack of existing workflows makes the challenge quite large for the new hire. The hire will need to develop a new data management strategy, interpret and publish results, make weather predictions, install and maintain equipment, and provide training and support for the end users of the information. This will be a significant undertaking for the new hire.

- Reviewer: G-50-07A

- Rating: 2

Since we use somewhat of a similar system, and data collected from such systems is relevant to operation level decisions.

- Reviewer: G-50-07B

- Rating: 5

The addition of a meteorologist will be beneficial to analyze the data and help disseminate that information to the users. The list of responsibilities required by the contract seem to be rather extensive for one person. Duties include installation, maintenance, data analysis, training, data mapping, forecasting, collaboration, soil and road temperature analysis and research. All of these tasks will be hard for one individual to do well.

- Reviewer: G-50-07C

- Rating: 2

Data management systems already exist through the ND Agricultural Weather Network. The primary hurdle remaining regarding data is creating a GIS layer on WDEA's LoadPass map. WDEA will work with its web site developer, DAWA Solutions Group, to accomplish this task. The meteorologist hired has experience in data management, as well as installation and maintenance of weather stations. One element of county training will include instructions and a request to occasionally assist with station maintenance tasks, one of the most important of which is simply dust removal.

- Applicant

3. The quality of the methodology displayed in the proposal is:

The required steps to make the weather information usable is clearly outlined in the application, but the expectation of one new hire to fully implement all the required steps is optimistic.

- Reviewer: G-50-07A

- Rating: 4

They have a reasonable methodology and approach to this project.

- Reviewer: G-50-07B

- Rating: 5

Having someone on staff dedicated to analyzing the data and maintaining the sites will help get the most out of the infrastructure installed. I do feel that the amount of work being requested of the meteorologist may be beyond what one individual can handle.

- Reviewer: G-50-07C
- Rating: 3

We believe the services of a qualified meteorologist are essential to the success of the project. This expense would have been included in the initial Wise Roads application, but WDEA frankly underestimated the amount of work that would be required, and overestimated the ability of our partner NDAWN to assist in project development. Consider that the addition of the first 25 weather stations alone represents a 20% increase in the number of stations on the NDAWN network.

- 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:

Once the Wise Roads system is fully operational, the benefits to the state and industry are tremendous. The base project has already received Industrial Commission approval and praise.

- Reviewer: G-50-07A
- Rating: 4

McKenzie County under my supervision had done a similar project. Our system is very basic and this will be a step up. I am personally excited to learn more about this system. I am pretty sure data gathered from this system will lead to other useful conclusions.

- Reviewer: G-50-07B
- Rating: 4

If the staff meteorologist can perform all proposed tasks there is potential for significant benefit. Maintenance is critical to receiving accurate data from the sites. Quality checking the data is also very important throughout the year.

- Reviewer: G-50-07C
- Rating: 3

Ongoing dialogue with the counties and industry trucking interests gives us confidence the project will achieve the desired results.

- 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:

As described, the staff member selected will have a very steep learning curve to fully develop the Wise Roads system as intended. Not only will the new meteorologist have to perform traditional forecasting activities, they will be expected to develop and implement a complex data acquisition and processing system to generate usable information.

- Reviewer: G-50-07A
- Rating: 2

No comment

- Reviewer: G-50-07B
- Rating: 4

The staff meteorologist is a new graduate with limited experience. Forecasting weather is different than looking at how precipitation effects a roadway. There are people in the industry that focus solely on road weather impacts.

- Reviewer: G-50-07C
- Rating: 2

It's worth noting meteorologist Jon Rosencrans graduated summa cum laude, so is exceptionally bright and more than capable of quickly learning new skills. A quick anecdote: the meteorologist attended the recent annual meeting of the ND Petroleum Council. Thunderstorms were in the forecast on Tuesday. We asked Jon late afternoon what time he thought the front would arrive in Watford City. He predicted 10 p.m. and was right on!

- 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:

The overall Wise Roads plan is very well conceptualized, but concerns exist (see notes above) surrounding the expectations of the single hire.

- Reviewer: G-50-07A
- Rating: 3

No comment

- Reviewer: G-50-07B
- Rating: 4

I feel their plan is adequate but may be more than one meteorologist can handle. They provided well defined milestones, schedule and plans for communication with other entities but it may be hard to achieve with one individual.

- Reviewer: G-50-07C
- Rating: 3

We expect the meteorologist will have adequate time during the upcoming winter months (when road management issues are less pressing) to work with WDEA web developers to produce the desired data management plan. The winter season will also provide opportunity to develop a strong relationship with county road and bridge personnel.

- Applicant

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

It would be interesting to see at least some consideration given to purchasing less stations, and focusing funds on solidifying the implementation strategies for the program. Additional stations could be added in the future if higher data density is desired.

- Reviewer: G-50-07A
- Rating: 3

I met one of their new hire earlier during this week, he is going to oversee this system, he shared with me the specification of the equipment and how he will be using it and it was justified.

- Reviewer: G-50-07B
- Rating: 5

Due to the amount of data and required maintenance the need for dedicated staff is justified. I had thought the maintenance was going to be done by NDAWN but the scope must have exceeded their capacity.

- Reviewer: G-50-07C
- Rating: 3

Although 50 weather stations sounds like a lot, western ND is large and there will be still be areas with 20-to-30 mile gaps between stations. Reviewer C is correct as noted in our cover letter that WDEA underestimated the workload and overestimated the ability of partner NDAWN to assist with project development. The equipment WDEA is installing is state-of-the-art, and will be continually monitored and maintained to ensure the accuracy of data that is produced.

- Applicant

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

The Wise Roads goals and objects stand to provide significant value to the oilfields of ND. The overall costs are justified in order to produce meaningful and timely road management decisions.

- Reviewer: G-50-07A

- Rating: 4

Since it is a new system and approach, costs are going to change over the time.

- Reviewer: G-50-07B

- Rating: 3

If the staff meteorologist is able to perform all of the tasks laid out in the proposal there is potential for good value. This is a lot to ask of one person though.

- Reviewer: G-50-07C

- Rating: 3

WDEA believes there is tremendous value in the provision of accurate weather data to assist county road managers in the performance of their duties. More precise road restriction policies offer the potential to save oil industry producers millions of dollars annually. The bonus benefit to North Dakota ag producers magnifies the value of the project.

- Applicant

9. The “financial commitment”<sup>2</sup> from other sources in terms of “match funding” have been identified:

The matching funds for the hire are slightly above the 50% minimum.

- Reviewer: G-50-07A

- Rating: 3

No comment

- Reviewer: G-50-07B

- Rating: 3

WDEA is proposing to pay approximately 50% of the meteorologist salary in addition to some other in kind contributions from other project sponsors.

- Reviewer: G-50-07C

- Rating: 3

WDEA and its members definitely have "skin in the game," and have the financial resources to successfully complete the project.

- Applicant

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.

## General Comments

I see tremendous value and potential in the Wise Roads program for all stakeholders in ND. However, concerns exist as to whether the proposed funding would be sufficient for the proposed hire to adequately implement the program as desired. I would have appreciated seeing some consideration given to purchasing less stations (\$10k each) and focusing the funds on a complete data handling and software solution. Given the information available at this time, the best I can advise is consideration of funding by the OGRP.

- Reviewer: G-50-07A

This is a good project and have a potential to increase efficiencies for the industry and the local governments. I recommend funding it.

- Reviewer: G-50-07B

If NDAWN is unable to fully support the needs of the project there is definitely a need for someone to manage the data and maintenance of the sites. As I stated above there are people in the industry that focus solely on weather and how it impacts our roadways. These folks have a lot of knowledge an background to determine these impacts. With all duties laid out in the proposal I think it will be hard for the staff meteorologist to achieve them all.

- Reviewer: G-50-07C