

# **Weather Information Systems to Effectively Reduce Oilfield Delays and Disruption (WISE Roads) – Supplemental to secure Meteorological Services**

## **Submitted by:**

Western Dakota Energy Association

- ❑ Funding Request - \$60,000**
- ❑ Total Project Costs - \$125,000**
- ❑ Project Duration: 24 months**

# PROJECT DESCRIPTION

- The Oil and Gas Research Council (OGRC) previously reviewed and recommended approval of the Wise Roads Project (Weather Information System to Effectively Reduce Oilfield Delays and Disruption). Partnering with the Western Dakota Energy Association (WDEA) on this project are the North Dakota Agricultural Weather Network (NDAWN) and the Upper Great Plains Transportation Institute (UGPTI). WDEA, in collaboration with its partners, completed Phase I of the project in June with the deployment of 10 research-grade weather stations in areas of western North Dakota that experience moderate to heavy oil industry traffic (see map on p. 15). WDEA is currently developing Phase II of the project which will involve the placement of 15 additional weather stations. This second phase will bring to 25 the total number of stations deployed, enhancing the availability of real-time weather information, especially precipitation data, to allow county/township road managers to more precisely identify those roads that require temporary restrictions and exclude those that do not.

- The ND Industrial Commission's approval on August 28 of a \$250,000 matching OGRC grant will enable WDEA to install up to 25 additional weather stations (for a total of 50) in high traffic areas throughout the oil-producing region, making available even more weather data to guide road management policies. The stations collectively will generate an immense amount of data, the proper utilization of which will deliver multiple identifiable benefits. Therein lies the problem and the motivation for this application. As described in UGPTI's letter of support, we are at risk of being "data rich and information poor." To fully realize the benefits the data can provide, WDEA determined in consultation with NDAWN, that it was necessary to secure the services of a full-time professional meteorologist. This application is, in effect, a supplement to the previous Wise Roads application. WDEA is seeking a matching contribution of an additional \$60,000 from OGRC to support this meteorologist position.
- The meteorologist will collaborate with county/township road managers in the oil producing counties to make appropriate use of the weather station data in determining if, when, and where road restrictions are necessary

## TECHNICAL REVIEWERS' RATING SUMMARY

		Technical Reviewer			
Statement	Weighting Factor	<u>G-50-07A</u>	<u>G-50-07B</u>	<u>G-50-07C</u>	<u>Average Weighted Score</u>
Objectives	9	2	4	3	27
Achievability	7	2	5	2	21
Methodology	8	4	5	3	32
Contribution	8	4	4	3	24
Awareness / Background	5	2	4	2	10
Project Management	3	3	4	3	9
Equipment / Facilities	2	3	5	3	6
Value / Industry-Budget	4	4	3	3	12
Financial Match – Budget	4	3	3	3	12
<b>Average Weighted Score</b>		149	209	138	165
<b>Maximum Weighted Score</b>				<b>250 possible points</b>	

# TECHNICAL REVIEWER TOTALS

- G-50-07A

Average Weighted Score: **149 out of 250**

**FUNDING TO BE CONSIDERED**

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- G-50-07B

Average Weighted Score: **209 out of 250**

**FUND**

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- G-50-07C

Average Weighted Score: **138 out of 250**

**FUNDING TO BE CONSIDERED**

# TECHNICAL REVIEWER COMMENTS

## **Reviewer G-50-07A**

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.

**Recommendation: Fund**

## **Reviewer G-50-07B**

McKenzie County has done a similar project. Their 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.

**Recommendation: Funding to be Considered**

## **Reviewer G-50-07C**

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.

**Recommendation: Funding to be Considered**

# **Director's Recommendation:**

**Fund in the amount of \$60,000**