Well Site Thief Hatch Methane Detectors - Phase II

Submitted by:

Blue Rock Solutions, LLC, dba Blue Comply

Principal Investigator: Troy D. Vareberg, PE

- **Total Funding Request - $450,000**

  Total Project Costs - $900,000

  Project Duration: 18 months

Project Description

Objective: This project is to further expand the capabilities of an existing methane detection device & associated software created in Phase I (Well Site Thief Hatch Methane Detectors), also known as Industrial Internet of-Things Methane Sensing Apparatus (IMSA). This technology addresses the largest sources of methane leaks on an oil and gas production site - the storage tank thief hatches. This shall increase the reliability of gas monitoring, shorten response time for repairs, reduce liability for potential EPA charges and help with the public's perception of the environmental impacts by reducing emissions.

Expected Results: The outcome of this project is to achieve commercialization of the IMSA product. This can be accomplished by completing pilot projects with the Producers and fine tuning the product to their needs. Another result of this project is to learn more regarding quantification (estimation of gas being released). This will still be an exploratory idea but we will have narrowed down the pathway to estimating the gas. Evaluating other well site assets that this device could assist producers with detection and monitoring of methane gas emissions.

TECHNICAL REVIEWERS' RATING SUMMARY					
Statement	**Weighting Factor**	**TR G-60-02A**	**TR G-60-02B**	**TR G-60-02C**	**Average Weighted Score**
Objectives	**9**	3	4	4	27
Achievability	**7**	3	5	3	21
Methodology	**8**	3	4	4	24
Contribution	**8**	2	4	4	24
Awareness/ Background	**5**	2	4	4	24
Project Management	**3**	2	2	2	6
Equipment / Facilities	**2**	3	4	2	6
Value/Industry-Budget	**4**	3	4	4	12
Financial Match – Budget	**4**	3	3	3	12
Average Weighted Score		**144**	**202**	**179**	**175**
Maximum Weighted Score				250 possible points	

Technical Reviewer Totals

- G-60-02A

Average Weighted Score: **144 out of 250**

FUNDING TO BE CONSIDERED

- G-60-02B

Average Weighted Score: **202 out of 250**

FUND

- G-60-02C

Average Weighted Score: **179 out of 250**

FUNDING TO BE CONSIDERED

Technical Reviewer Comments

Reviewer G-60-02A

I can only recommend considering funding the full application. I would likely change my recommendation to 'fund,' but only for the research components of the application (e.g., methane quantification). I agree with the applicant that identifying and quantifying wellsite emissions are top priorities for North Dakota's producers, and continued research in these areas is warranted. However, the application was limited in research and overly focused on commercialization. I recognize the importance of commercialization efforts for achieving widespread utilization of the applicant's product and its subsequent benefits to North Dakota. However, these efforts may be better suited for funding through the NDIC's CSEA grant/loan programs.

Recommendation: FUNDING TO BE CONSIDERED

Reviewer G-60-02B

The ability to detect a leak is the first step towards eliminating an atmospheric leak. North Dakota has the ability to continue funding this grant to lead the way for the nation and globe in early detection and, therefore, early elimination of leaks.

Recommendation: FUND

Reviewer G-60-02C

I believe the proposed work has significant value for the state and the oil and gas industry. I do believe there is a lack of detail on the budget, the milestone chart and I would have liked additional information on the devise that has been developed in the phase one activity. I believe the NDIC;s technical representative will need that information to adequately monitor the progress during the execution of this activity if selected for funding and will want to be appraised in the additional information noted by this reviewer.

Recommendation: FUNDING TO BE CONSIDERED

Director's Recommendation:

- **Fund in the amount of $450,000**