

R008-A: "Bulk Energy Storage for ND Wind Energy Integration"

Submitted by Dakota Salts

Principal Investigator: Ted Pagano

Request for \$225,000; Total Project Costs \$570,000

Technical Advisor Comments

- Two reviewers recommended fund, one recommended funding may be considered.
- Applicants will provide a 61% match.
- One reviewer would have liked more detail about the process of the geotechnical data collection in order to better understand the time required to deploy equipment and gather data before it is analyzed. Another reviewer expressed concerns that all parties would complete their portion of the project in a judicious manner.
- One reviewer stated, "The statement that the feasibility study will provide the "total value proposition" is probably over stated. It may move the Commission down the road to being able to evaluate BES as a viable option to pursue, but there will certainly be more investigation needed. Much of the value of this project will be to identify what else needs to be known." The same reviewer feels that the project is a necessary first step towards determining the feasibility of Compressed Air Energy Storage (CAES) in ND. The applicants have provided a great deal of clarification regarding the total value proposition as well.
- All 3 reviewers felt that there were not many references to current research. However, 1 reviewer stated that there was not much available. The applicants have stated that EPRI is the world's foremost leader, expert, and published expert in the realm of Compressed Air Energy Storage.
- One reviewer felt that the budget amount would restrict the high level of deliverables that are promised.

Technical Advisor Recommendations

Fund. There are some concerns with this proposal including:

- 1.) One reviewer feels that several assumptions will be made in the project. The reviewer states "It must be recognized that the work from each participant is being done as modeling and analysis of existing data, rather than physical testing of real conditions. Many assumptions will be made that are necessary, but can always be questioned..."
- 2.) One reviewer felt that the proposal was sound with the exception of the consideration of energy extraction.

However, even the reviewer that recommended funding be considered felt the project is a necessary first step to development of Compressed Air Energy Storage in ND.