Project # TV-001: Controlled Hydrogen Fleet and Infrastructure Analysis

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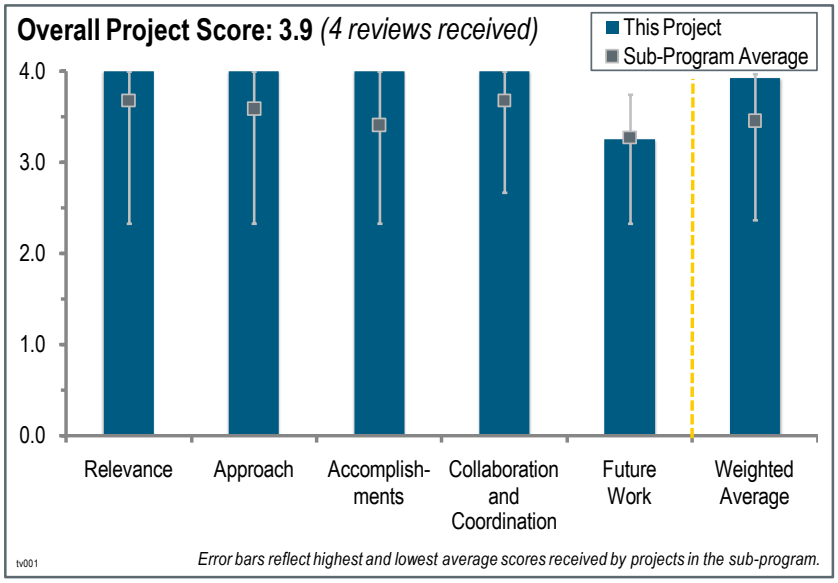
Brief Summary of Project:

This project will provide facilities and staff for securing and analyzing industry sensitive data. . The results will be used to: (1) evaluate current status and progress toward targets; (2) provide feedback on current technical challenges and research and development opportunities in the U.S. Department of Energy's (DOE) Hydrogen and Fuel Cells Program; (3) provide analytical results to originating companies on their own data (detailed data products); and (4) collaborate with industry partners on new and more detailed analyses. Progress on the project is published or presented to the public and stakeholders (composite data products).



Question 1: Relevance to overall U.S. Department of Energy objectives

This project was rated **4.0** for its relevance to DOE objectives.

- The project provides a valuable service to the Technology Validation sub-program by collecting and documenting vehicle and fueling infrastructure performance data, which is very relevant to DOE goals and objectives.
- The project has been one of the best projects funded by the Program, and has helped DOE achieve its technical targets.
- Fuel cell electric vehicle (FCEV) technology validation under real-world conditions is a key factor for timely introduction of FCEVs into the marketplace.
- The project is an excellent data source.

Question 2: Approach to performing the work

This project was rated **4.0** for its approach.

- The approach has been proven and also improved over the course of the project. The process of providing specific, proprietary information to participants and general, nonproprietary information in the public domain is effective and useful.
- The researchers have met all of the difficulties in the project with professionalism, and have cooperated with industry.
- The approach pulls together and analyzes key operational data from company prototype FCEVs.

Question 3: Accomplishments and progress towards overall project and DOE goals

This project was rated **4.0** for its accomplishments and progress.

- The project is moving toward completion, but still continues to deliver an impressive amount of critical information documented in appropriate reports and presentations.
- The project is above outstanding, with the project's Composite Data Reports providing excellent analysis.
- A wealth of important operational information has been acquired.
- The data is useful for users requiring actual data on FCEVs and hydrogen station real-world operation.

Question 4: Collaboration and coordination with other institutions

This project was rated **4.0** for its collaboration and coordination.

- This project has built a strong supporter base. Many collaborators continue to provide useful input to this project.
- The project has produced excellent work. The project collaborations are concluding now.
- Close collaboration has been a required key element for the success of this project.

Question 5: Proposed future work

This project was rated **3.3** for its proposed future work.

- The project is expected to continue to make excellent progress. The plan is to finish the project on time, leaving a lasting legacy.
- The project is nearly finished, and future work should focus on effectively disseminating information to key automotive decision-makers.
- It is hoped that DOE will be able to continue funding technology validation projects at the National Renewable Energy Laboratory (NREL).

Project strengths:

- The project demonstrated a solid approach, a strong team, and excellent participation from collaborators.
- NREL researchers maintained everyday quality control on the project. Researchers worked well with industry.
- The researchers demonstrated a highly effective data collection and analysis process.

Project weaknesses:

[There were no weaknesses listed by reviewers.]

Recommendations for additions/deletions to project scope:

- The project should continue in some form. Future years will be critically important as fuel cell vehicles approach commercialization. Reliable and accurate data will be required for continued technology development. More information on the reasons vehicles are retired from the database would be helpful. Also, more information on the power drop-off at 350 bar would be appreciated.
- Analysis of material handling equipment should be added to the NREL technology validation portfolio.