

2010 Annual Merit Review Results Report

September 2010

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Introduction

The 2010 DOE Hydrogen Program and Vehicle Technologies Program Annual Merit Review and Peer Evaluation Meeting was held June 7-11, 2010 in Washington, DC. The review encompassed all of the work done by the Hydrogen Program and the Vehicle Technologies Program: a total of 271 individual activities were reviewed for Vehicle Technologies, by a total of 110 reviewers. A total of 1,333 individual review responses were received for the technical reviews.

The objective of the meeting was to review the accomplishments and plans for the Vehicle Technologies Program over the previous 21 months, and provide an opportunity for industry, government, and academia to give inputs to DOE on the Program with a structured and formal methodology. The meeting also provided attendees with a forum for interaction and technology information transfer.

The reviewers for the technical sessions were drawn from a wide variety of backgrounds, including current and former vehicle industry members, academia, government, and other expertise areas. In the technical sessions, these reviewers were asked to respond to a series of specific questions regarding the breadth, depth, and appropriateness of the DOE Vehicle Technologies Program. The technical questions are listed below, along with the scoring metrics (if appropriate). These questions were used for all Vehicle Technologies Program reviews, with the exception of the American Recovery and Reinvestment Act reviews, which used a different set of questions.

Question 1: Does this project support the overall DOE objectives of petroleum displacement? Why or why not?

Question 2: Approach to performing the work: the degree to which technical barriers are addressed, the project is well-designed, feasible, and integrated with other efforts. (Scoring weight for overall average = 20%)

Scoring: 4=outstanding (sharply focused on technical barriers; difficult to improve approach significantly); 3=good (generally effective but could be improved; contributes to overcoming some barriers); 2=fair (has significant weaknesses; may have some impact on overcoming barriers); 1=poor (not responsive to project objectives; unlikely to contribute to overcoming the barriers).

Question 3: Technical accomplishments and progress toward overall project and DOE goals: the degree to which progress has been made, measured against performance indicators and demonstrated progress toward DOE goals. (Scoring weight for overall average = 40%)

Scoring: 4=outstanding (excellent progress toward objectives, suggests that barriers will be overcome); 3=good (significant progress toward objectives and overcoming one or more barriers); 2=fair (modest progress in overcoming barriers, rate of progress has been slow); 1=poor (little or no demonstrated progress toward objectives or any barriers).

Question 4: Collaboration and coordination with other institutions. (Scoring weight for overall average = 10%)

Scoring: 4=outstanding (close, appropriate collaboration with other institutions, partners are full participants and well coordinated); 3=good (some collaboration exists, partners are fairly well coordinated); 2=fair (a little collaboration exists, coordination between partners could be improved); 1=poor (most work is done at the sponsoring organization with little outside collaboration, little or no apparent coordination between partners).

Question 5: Proposed future research: the degree to which the project has effectively planned its future work in a logical manner by incorporating appropriate decision points, considering barriers to the realization of the proposed technology, and, when sensible, mitigating risk by providing alternate development pathways. (Scoring weight for overall average = 10%)

Scoring: 4=outstanding (plans clearly build on past progress and are sharply focused on barriers); 3=good (plans build on past progress and generally address overcoming barriers); 2=fair (plans may lead to improvements, but need better focus on overcoming barriers); 1=poor (plans have little relevance toward eliminating barriers or advancing the program).

Question 6: Resources: how sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Responses: excessive, sufficient, insufficient.

The following questions were used for the American Recovery and Reinvestment Act projects: these projects had focused on deployment, so a different series of questions were used.

1a. Relevance: Is the project effort relevant to the American Recovery and Reinvestment Act (ARRA) of 2009 goals: Create new jobs as well as save existing ones; spur economic activity and invest in long-term economic growth. (Scoring weight for overall average = 20%)

Scoring: 4 = outstanding (project is very relevant and will make substantial contributions to the ARRA 2009 goals); 3 = good (project is relevant and will make moderate but significant contributions to the ARRA 2009 goals); 2 = fair (project is somewhat relevant and will make some contribution to the ARRA 2009 goals); 1 = poor (project is not relevant and is unlikely to contribute to the ARRA 2009 goals).

1b. Relevance: Does the project's technology development plan and/or deployment plan address the VT ARRA project goals of accelerate the development of U.S. manufacturing capacity for batteries and electric drive components as well as the deployment of electric drive and alternative fuel vehicles and infrastructure? Does the project's development and/or deployment plan address the VT ARRA project goal to establish education projects that accelerate the mass market introduction and penetration of advanced electric drive vehicles, which includes light, medium, and heavy duty advanced electric vehicles (EV), plug-in hybrid electric vehicles (PHEV), and fuel cell electric vehicles (FCV)?

Scoring: 4 = outstanding (project is very relevant and will make substantial contributions to the ARRA 2009 goals); 3 = good (project is relevant and will make moderate but significant contributions to the ARRA 2009 goals); 2 = fair (project is somewhat relevant and will make some contribution to the ARRA 2009 goals); 1 = poor (project is not relevant and is unlikely to contribute to the ARRA 2009 goals).

2. Development/Deployment Approach: Are the project's technical and deployment milestones and schedule clearly identified, appropriate, and feasible, and are technical and commercial barriers and risks adequately addressed? (Scoring weight for overall average = 35%)

Scoring: 4 = outstanding (project team sharply focused on achieving milestones, overcoming barriers, and managing risks; difficult to improve approach significantly); 3 = good (appropriate milestones and schedule identified, and barriers and risks addressed. Effort likely to achieve project goals, but approach could be improved); 2 = fair (approach has significant weaknesses; but may contribute towards achieving most project goals); 1 = poor (unlikely to make progress towards project goals, and/or barriers, risks are not adequately addressed.)

3. Technical Accomplishments and Progress: What is the overall progress towards project's objectives and milestones? Is progress adequately reported and quantified (e.g., number of jobs, installations, etc.) as required by ARRA? (Scoring weight for overall average = 40%).

Scoring: 4 = outstanding (excellent progress toward objectives and milestones; barrier(s) likely to be overcome); 3 = good (significant progress towards objectives and overcoming one or more barriers); 2 = fair (rate of technical progress is slow, some progress made in overcoming barriers); 1 = poor (little or no demonstrated progress towards objectives, or towards overcoming barriers.)

4. Collaborations/Partnerships: Does the project team effectively use collaborations/partnerships with regional, state, local governments, industrial, commercial, university, research organizations, and similar organizations to achieve its objectives? (Scoring weight for overall average = 5%)

Scoring: 4 = outstanding (effective collaboration/partnerships that enhance probability of success of effort); 3 = good (some collaboration/partnerships exists that could enhance probability of success); 2= fair (minimal collaboration/partnerships exists; coordination/partnerships could be improved); 1 = poor (little collaboration/partnerships between partners, or collaboration with other organizations exist.)

Project Strengths

Project Weaknesses

Specific Recommendations

Responses to the questions were submitted electronically through a web-based software application, PeerNet, operated by the Oak Ridge Institute for Science and Education (ORISE). Database outputs from this software application were analyzed and summarized to collate the multiple-choice, text comment, and numeric scoring responses and produce the summary report.

The report is organized by technical area. Responses to the questions are summarized in the pages that follow, with summaries of numeric scores for each technical session, as well as text and graphical summaries of the responses for each individual technical activity. A list of the activities (and page numbers) for each section appears at the start of each section.

