Introduction

The 2008 DOE Vehicle Technologies Program Annual Merit Review was held February 25-28, 2008 in Bethesda, Maryland. The review encompassed all of the work done by the Vehicle Technologies Program: a total of 280 individual activities were reviewed, by a total of just over 100 reviewers. A total of 1,908 individual review responses were received for the technical reviews, and an additional 29 individual review responses were received for the plenary session review.

The objective of the meeting was to review the FY 2007 accomplishments and FY 2008 plans for the Vehicle Technologies Program, and provide an opportunity for industry, government, and academic 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.

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

Question 2: Are the goals of the project technically achievable? Have the technical barriers been identified and addressed? Is the project likely to overcome those technical barriers? Please comment on the project's strategy for deployment of technologies.

Question 3: Characterize your understanding of the technical accomplishments and progress toward DOE goals: please state the reasons for your assessment.

Question 4: What is the likelihood that the project team will move the technologies toward or into the marketplace? Please state the reasons for your selection.

Question 5: How sufficient are the resources for the project to achieve the stated milestones in a timely fashion?

Question 6: Summary rating: when scoring this project, consider the relevance of the work to DOE's objectives, potential impacts on DOE/VT goals, project accomplishments, likelihood of technology transfer, and sufficiency of project resources.

The plenary session reviewers were asked to respond to a different set of queries, designed to elicit their input on the overall direction of the Vehicle Technologies Program. The questions asked of the plenary session reviewers are listed below.

1. *In your judgment, what aspects of the OVT program will have the biggest impact and timely contribution to the DOE strategic goals?*

2. *Please comment on the trends over the past several years in DOE OVT funding and technical research focus. Provide your specific thoughts on the technology focus shifts (such as from combustion/emission control to plug-in hybrids, from heavy-duty to light-duty, and so on), explaining why you think these shifts in funding priorities enhance or detract from OVT support of DOE/EERE strategic goals in a timely manner.*

3. *Please comment on the current mix of activities in the OVT portfolio.*

    a. *What overall balance of research, demonstration, and deployment in the OVT portfolio should be pursued, and why?*

    b. *Should OVT place more emphasis on deployment and technology integration activities or lessen their emphasis and allow industrial partners to pursue this work? Why?*

    c. *How much high risk/high reward research (of the sort that industry would likely not perform on its own) should OVT be pursuing?*

    d. *How well does the OVT research portfolio reflect the balance of research needs for and the relative importance of the light-duty and the heavy-duty vehicle sectors?*

    e. *Are there areas of research outside the current OVT portfolio (such as pure electric vehicles, new fuels, and so forth) that DOE should consider for investments in research funds?*

    f. *Comment on the level of DOE's investment in enabling technologies (i.e., those that do not directly achieve petroleum reductions but rather enable the use of other technologies that do achieve petroleum reductions, such as materials, heat and mass transfer technologies, etc.) and the types of projects that should/should not be funded.*

    g. *Is the OVT investment in environmental and health impacts assessments of its future technologies appropriate and useful? Why?*

4. *Please provide any other comments you may have on the overall OVT program.*

Responses to the questions (both plenary and technical) 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 then analyzed and summarized to collate the multiple-choice, text comment, and numeric scoring responses to produce the summary report.

The report is organized into sixteen individual sections, one for each technical area (plus one section for the plenary session comments). 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.