

2013 Annual Merit Review Survey Questionnaire Results

Following the 2013 Hydrogen and Fuel Cells Program Annual Merit Review (AMR), all participants were asked for feedback on the review process and meeting logistics. This appendix summarizes the results of that feedback, and is organized by type of respondent, as follows:

1. All Respondents
2. Responses from “Attendee, neither Reviewer nor Presenter”
3. Responses from Reviewers
4. Responses from Presenters.

1. All Respondents

1.1. What is your affiliation?

	Number of Responses	Response Ratio
Government agency directly sponsoring the program under review	10	4.4%
National/government laboratory, private-sector or university researcher whose project is under review	54	24.2%
Non-government institution that received funding from the program(s) under review	44	20%
Non-government institution that does not receive funding from the program(s) under review	39	17.4%
Government agency with interest in the work	4	2%
National/government laboratory, private-sector or university researcher not being reviewed	45	20.1%
Other (see listing below)	19	8.5%
No Responses	8	3.5%
Total	223	100%

“Other” Responses

- Manufacturer in the energy sector
- Contractor to a government agency interested in the work of the U.S. Department of Energy (DOE) Hydrogen and Fuel Cells Program
- Business development in an energy technology company
- Non-government institution that did receive funding, but is not under review
- Private company
- DOE contractor
- Financial sector representative
- Private consultant
- University funded by the DOE Basic Energy Sciences program
- University of Maryland
- University of China
- Canadian university
- Retired scientist
- International Energy Agency member from Germany (previous reviewer)

1.2. Purpose and scope of the Annual Merit Review were well defined by the Joint Plenary Session (answer only if you attended the Joint Plenary on Monday).

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
1	1	8	55	53
1%	1%	7%	47%	45%

12 Comments

- The Joint Plenary Session (Joint Session) was excellent.
- The presentations were outstanding.
- The overview was good, but rather short.
- The instructions provided for the merit review process were very clear.
- The guidance and summary provided by Assistant Secretary for Energy Efficiency and Renewable (EERE) Energy David Danielson was excellent. This is evidence of great leadership.
- The Joint Session was extremely valuable as a high-level overview and provided context for the DOE Hydrogen and Fuel Cells Program and program area overviews. It was helpful to understand DOE's overall objectives regarding energy efficiency and how the programs fit into those goals.
- It seemed that DOE is in a period of transition because many comments were vague.
- The purpose of the AMR did not seem to be discussed in-depth during the Joint Session.
- There were not any specifics in any of the presentations, so only a qualitative estimation can be given, not a quantitative estimation.
- The Joint Session needs to focus more on breakthroughs and highlights from the last year instead of laying out the whole program. That is what the program websites are for.
- The Joint Session's graphics were too complex. The Session should have had only the Assistant Secretary speak about the Administration's policies and how these policies are promoting energy efficiency and renewable technologies.
- The presentations were interesting. The Basic Energy Sciences presentation focused too much on program structure; more scientific results would have been highly appreciated.

1.3. The two plenary sessions after the Joint Plenary Session were helpful to understanding the direction of the Hydrogen and Fuel Cells and Vehicle Technologies Programs (answer only if you attended either the Hydrogen and Fuel Cells or Vehicle Technologies plenary sessions on Monday).

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	0	11	64	40
0%	0%	10%	56%	35%

9 Comments

- The plenary sessions were outstanding.
- The plenary was very valuable and covered, at a high level, the full scope of the Vehicle Technologies Office (VTO) programs.
- The VTO plenary session was useful in promoting understanding of the structure of the Office's programs and its overall goals, particularly because this was this participant's first Annual Merit Review (AMR).

- These were interesting sessions about the major results. It would have been nice to have some focus on global strategies for hydrogen, fuel cells, and vehicle technologies with regard to other types of energy and applications. There was more information than fit the presentation times.
- As in the Joint Session, DOE seems to be in a period of transition because many comments were vague.
- A special session at the end of the review for discussing the directions of the programs would be helpful.
- The plenary sessions were helpful, but there was a lot of duplication (many of the same slides) in the plenary sessions, the session introduction presentations, and the actual project presentations.
- The VTO plenary session provided useful program overview and program direction information.
- The Hydrogen and Fuel Cells Program plenary session was not as engaging as it could have been. The slides looked like a written report that had been forced to fit a presentation, and while this makes for a useful reference, it does not make for a useful presentation. The presenters should consider using simpler slides in the plenary session, with more detail available on a CD or online.

1.4. Program overviews were helpful to understanding the research objectives. (Answer only if you attended one or more program overviews.)

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
1	2	7	85	74
1%	1%	4%	50%	44%

15 Comments

- The overviews help to put the research in perspective.
- The overviews were very useful because they gave highlights of the current research.
- The Vehicle Technologies Office merit reviews were conducted very well.
- These were interesting sessions that presented details about the targets and the major results.
- The program overviews helped this participant to better appreciate how the pieces fit together.
- The program overviews should highlight some of the past successes/projects that are influencing the current suite of projects or the direction of the programs.
- The program managers in each of the programs were very knowledgeable about the various projects and did a great job putting the work in perspective. The project highlights and progress toward meeting DOE goals were well presented.
- The program overviews always occur as part of the AMR meeting since they allow for a recap of the programs each year. They also allow for further detail on how the program works within the overall office.
- The program overviews were redundant if one attended the plenary overview sessions.
- The program overview for Vehicle and Systems Simulation and Testing did a good job of categorizing the work that would be presented in the following sessions.
- Many of the same slides were used in all of the overviews. It would have been better to have different slides used.
- The program overviews were somewhat repetitive with the Hydrogen and Fuel Cells Program plenary.
- More explicit identification of the multi-year research, development, and demonstration plan (MYRDDP) targets specific to the program would have been a nice reminder. There should have been bulleted points identifying them as goals, e.g., “these research projects are expected to address...”
- Because reviewers were generally limited to attending only a subset of the program sessions during the week, the plenary sessions on the first day were valuable in promoting understanding of what the other programs within the Offices were doing.
- A few people questioned why DOE is pursuing research on both plug-in hybrid electric vehicles (PHEVs) and internal combustion engine vehicles (ICEs), saying that if DOE is interested in a non-fossil-fuel-based approach for transportation, then the focus should be solely on PHEVs. In this reviewer’s opinion, DOE should focus on both PHEVs and ICEs.

- 1.5. What was your role in the Annual Merit Review? Check the most appropriate response. If you are both a presenter and a reviewer and want to comment as both, complete the evaluation twice, once as each.

	Number of Responses	Response Ratio
Attendee, neither Reviewer nor Presenter	106	47.5%
Presenter of a project	66	29.5%
Peer Reviewer	42	18.8%
No Responses	9	4.0%
Total	223	100%

2. Responses from “Attendee, neither Reviewer nor Presenter”

- 2.1. The quality, breadth, and depth of the following were sufficient to contribute to a comprehensive review:

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

	Highly Disagree	Disagree	Neutral	Agree	Highly Agree
Presentations	0	2	9	50	40
	0%	2%	9%	50%	40%
Question and answer periods	2	1	12	51	34
	2%	1%	12%	51%	34%
Answers provided to programmatic questions	0	1	11	57	30
	0%	1%	11%	58%	30%
Answers provided to technical questions	0	3	9	63	26
	0%	3%	9%	62%	26%

12 Comments

- The review was well controlled. The chairpersons in the meeting were good.
- The DOE manager in the VTO fuels section did a nice job of moderating.
- Not all of the presenters and presentations were of the same caliber, but, in general, all were appropriate for the scope of the review. Several presenters focused on a large number of separate efforts. While this can be nice, it does not allow significant depth on the aspects of the project that are working better and are clearly of more relevance.
- The scientific aspects of the results and discussion should be emphasized more.
- Although the time and presentation template is limited, more in-depth technology description should be included in the presentation.
- There should be more time for questions for non-reviewers.
- It was not clear if programmatic questions were asked.
- It was not clear if the “Answers provided...” referred to the individual project presentations or the program overview presentations.
- There was not enough in-depth discussion. The quality of reviewers’ questions is often low.
- There is still too much emphasis on the programmatic elements, and too little on the technical elements.
- There is an inherent difficulty in reviewing technical content in this format. Providing reviewers with some one-on-one time with the principal investigators would greatly improve the technical content of the reviews.

- It was hard to gauge when a project was in trouble. After reviewers started asking questions, it was clear that a few projects were in trouble. The presenters should be up-front and honest about the status of the project and not glaze over hard topics.

2.2. Enough time was allocated for presentations.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	4	13	44	40
0%	4%	13%	44%	40%

6 Comments

- The timing is perfect. There is plenty of time to cover the details of the technical program and assess the progress.
- It is a tightly packed schedule, but overall it is efficient.
- In some cases it was enough time, but not in all.
- There were some more complex projects that seemed to need more time, although in general it was enough.
- The time was generally enough, but there are several presenters that go over the allotted time year after year. Something needs to be done about that.
- The 20-minute time limit is enough; however, some of the presenters should have been more prepared and have a better understanding of how short that time actually is.

2.3. The questions asked by reviewers were sufficiently rigorous and detailed.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
1	5	24	48	23
1%	5%	24%	48%	23%

9 Comments

- The reviewers are experts in their field and it shows.
- Some improvements could be made in this area; however, overall these questions are very good.
- Many of the reviewers were very impressive. They asked thoughtful questions that brought value to the review.
- In some cases the questions were good, but in others the reviewers did not seem familiar with the work at all.
- There were some very good questions raised by reviewers, but some were lacking technicality. Additionally, some questions, though mostly asked by audience members, were ego-driven due to conflicts of interests.
- Some reviewers appeared unprepared.
- Some questions were more of a comment disguised as a question.
- Most of the reviewers' questions were fairly superficial.
- Because it is in a public setting, the questions never seemed to be too rigorous.

2.4. The frequency (once per year) of this formal review process for this Program is:

	Number of Responses	Response Ratio
About right	88	39.4%
Too frequent	2	<1%
Not frequent enough	6	2.6%
No opinion	6	2.6%
No Responses	121	54.2%
Total	223	100%

4 Comments

- One a year is perfect.
- The frequency is good. Having the meeting more frequently would be too costly, and less frequently would not allow participants to interact with other performers frequently enough.
- Twice a year would be better so that basic changes to direction could be made.
- Some projects require a lot of time to develop in terms of receiving equipment, constructing the laboratory, etc. In most cases, receiving equipment takes about a year. Running the equipment after safety reviews takes an additional 1–2 months. The frequency should be taken into account by considering the scope of the project.

2.5. Logistics, facilities, and amenities were satisfactory.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	4	5	34	58
0%	4%	5%	34%	57%

18 Comments

- The area chosen for the meeting was very accessible.
- This is an excellent venue. It is great to be close to a metro station and the airport.
- The meeting rooms were comfortable with good ventilation. The lunches were fine and had good service.
- A longer lunch time would have been nice. The food was great.
- It would be better if there was just one venue instead of two. Otherwise, it was great.
- There was only one microphone feedback incident; otherwise, the logistics were well handled.
- For the most part the logistics, facilities, and amenities were satisfactory. On Thursday, presentations in the Alexandria Room were somewhat difficult to see for non-reviewers because the screen was not sufficiently high enough to view in its entirety—other attendees' heads were in the way.
- The food should have been left out throughout the presentations and not just during the break times.
- The hotel could have been better at keeping coffee and cream supplied.
- There needs to be more seating in the foyer and hallways outside of the presentation rooms.
- Washington, DC is on the expensive side.
- The venue was not very nice or comfortable.
- The air conditioning was too cold.
- The walk between hotels was a barrier to attending the presentations.
- The hotels are too far from each other to allow switching between the sessions.
- The hotel removed much of the congregating furniture and made it difficult to have conversations outside of the review meetings.
- It is not clear why the review was held in Washington, DC. It seems the total spending could be decreased if this meeting were held elsewhere.

- It is too expensive to travel to Washington, DC. It should be done at a less expensive location near Argonne National Laboratory (ANL), keeping in mind that the largest participant group traveling from a single organization might save some money.

2.6. The visual quality of the presentations was adequate. I was able to see all of the presentations I attended.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
2	3	9	44	44
2%	3%	9%	43%	43%

11 Comments

- *From five respondents:* The font was too small and many presenters put too much information on one slide.
- Sitting in the front allowed for no trouble seeing the screen.
- The monitors in the individual rooms were good. There were not enough screens in the banquet hall for all to see clearly.
- A larger screen with better resolution was needed. Those in the back could not see anything.
- In the large rooms it was difficult to see the presentations. Also, during lunch half the audience faced away from the screens. It would be helpful to have screens on the other side of the room.
- The standard pastel backgrounds with white fonts were very difficult to see. A minimum font size (16 point) should be recommended.
- In every room the projected image was larger than the screen, causing information to be cut off. Someone should have checked this out prior to the meeting. Also, the transition from PDFs to PowerPoints and back was not flawless. One slight distraction during the transfer leads to pushing one wrong button, resulting in much delay in finding one’s way back. There needs to be a better process for going from one presentation to another.

2.7. The audio quality of the presentations was adequate. I was able to hear all the presentations I attended.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	0	1	49	49
0%	0%	1%	49%	49%

5 Comments

- The audio people were excellent. It is not clear why there was an ORISE person in each room.
- People need to be sure to use the microphones. The microphones are critical in the banquet hall.
- Aside from a few glitches, it was mostly OK. The lunches were an exception; the volume needs to be increased during those presentations.
- There was one presenter who could not be understood and it was entirely the individual’s fault.
- Too many speakers wandered away from the microphone, especially when answering questions. Additionally, when sitting near the back of the presentation rooms, the audience was continually interrupted by the conversations in the lobby when people entering or leaving do not shut the door.

2.8. The meeting hotel accommodations (sleeping rooms) were satisfactory.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
1	1	19	37	24
1%	1%	23%	45%	29%

8 Comments

- *From five respondents:* The meeting hotel was too expensive.
- It was a very nice hotel.
- The hotel was a little noisy at night with trucks making loud beeping sounds when backing up to make deliveries.
- For those that could not get a room (due to the hotel being booked up), there were many other options nearby.

2.9. The information about the Review and the hotel accommodations sent to me prior to the Review was adequate.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	0	6	45	47
0%	0%	6%	46%	48%

1 Comment

- It would be better to know the paper titles in each session and not just the category.

2.10. What was the most useful part of the review process?

63 Responses

- *From 14 respondents:* The opportunity to network and/or brainstorm with researchers.
- *From 10 respondents:* The oral technical presentations.
- *From 8 respondents:* Learning about the technical progress and status of the various projects.
- *From 5 respondents:* The question and answer session for reviewers.
- *From 4 respondents:* The ability to see the entire breadth of DOE activity on a single place over just a few days.
- *From 3 respondents:* The plenary sessions, which provided a good overview.
- *From 3 respondents:* The poster sessions and the ability to interact more with researchers during these sessions.
- *From 2 respondents:* The ability to learn about similar research projects was very useful, since it generated a greater understanding of related R&D as well as ideas for future research areas.
- *From 2 respondents:* The energy storage session.
- Getting an update on the fuel cell industry as a whole, and the background on general adoption plans for the general public.
- Information transfer, networking, and adherence to the schedule.
- The presentations that showed progress towards the DOE goals and multi-year R&D plan targets.
- Gaining a better understanding of what the national laboratories are currently focusing on.
- Seeing how well the projects are doing and how they are helping DOE meet its goals.

- The list of presentations and presenters, which allowed participants to network with them off-line without having to look for people in the halls.
- The fact that the slides and information were provided as a reference during the meeting.
- Grouping the proposals by subject area and content was very useful. The poster sessions were not as effective as the oral presentations.
- The same format for each presentation made it easy to follow from one program to another and get an idea of the program's health.
- The ability to see a clear technology development path, associated challenges, and plans to address them. It was easy to see good progress.
- Being able to ask questions directly to the presenters and having them all together at the same time.

2.11. What could have been done better?

37 Responses

- *From 3 respondents:* Nothing could have been done better.
- *From 2 respondents:* More time is needed for questions and answers.
- The presentations need more technical details.
- The cost of the hotel room could be reduced.
- The venue and access to the internet could have been better.
- There should be more collaboration between fuel cells and batteries.
- There should be more innovative approaches and new faces.
- There should be more sleeping rooms available at the conference hotels.
- There could have been more information on the DOE budget and funding opportunities.
- The luncheon food was so-so.
- The food and beverage service at the poster session could have been better announced.
- The break area was way too small. Something needs to be done to move people away from the small area.
- There should be a longer lunch time and longer poster sessions, because there were so many nice results.
- Overall, it was very well done. The hotel space was a bit crowded and made it difficult at times to move around.
- The components of each program were reviewed satisfactorily. The same rigor on the overall program could make it better.
- There could have been more in-depth technology information and better presentation rooms. The AMR could also be in a different location—another area besides Washington, DC.
- Overall the meeting was well organized. The AMR should consider limiting attendance from foreign entities (e.g., universities from China and entities from Japan can easily attend now).
- The presentations should be on a USB drive rather than a CD. This participant wanted to read about presentations that he could not attend, but his computer does not have a CD drive.
- There should be less duplication of information between the plenary, the introductions, and the actual presentations.
- The review is already good enough. It would be better if the lunch provided vegetarian options that attendees can select online before going to the meeting.
- All of the speakers on a single topic should be put in one session; for example, ANL presenters on voltage decay of layered cathode materials.
- Outstanding results could be presented in the form of exhibits in addition to oral/poster presentations, where applicable.
- Examples from overviews at the beginning could have focused more on a particular successful current or past project.
- The AMR should consider adding a red/yellow/green status for quickly gauging the health of a project (is it meeting technical objectives, cost targets, etc.).
- There should be more time allowed for networking. This is a rare event for industry experts to get together, so at least one non-working lunch or just time set aside for networking could be beneficial.

- The AMR should get higher-quality reviewers (maybe they should be reimbursed.) There are too many industry/government reviewers. While this review process is necessary, the nature of the review displaces scientific discussion. Also, specific to this year, there were way too many “overview” presentations.
- The projects could have been grouped under different sections; for example, basic research and development (R&D), applied technology, and industrial projects could have been reviewed in different sessions.
- The time allocated for presentations should be strictly enforced and sufficient time should be allowed for questions and answers. Also, the AMR should pick reviewers so that the question-and-answer period is utilized effectively.
- There need to be more vegetarian options at the AMR lunch events—this is also more sustainable. A cereal-based vegetarian entree choice (e.g., pasta or rice) would be preferred to only an all-vegetable dish.
- Not all of the session chairpersons kept the presenters to a strict schedule. Some presentations started late and others started early. This caused significant problems when going from one hotel to the next for presentations that were scheduled right after one another. There were several times when this respondent missed a major part of the presentation due to this.
- The summary and future directions were almost nonexistent for many presenters. The presenters had a summary slide, which they typically glossed over, but had little else. On future directions, presenters often said just a few words about what was moving forward without much detail on why or how. The presenters indicated their goals and achievements in a clear fashion and should also do so for the future work.
- The chairs of the sessions need lessons in notifying the speaker when the time is up. In one session, the chair failed to draw the attention of the speaker to the cards that alerted the time remaining. The chair did not speak up or try any other approach to get the speaker’s attention. The chair was then obviously frustrated and was rude to the speaker.
- There could be better networking opportunities. The hallway outside of the meeting rooms was crowded during the break. It was difficult to get the drinks and network.
- There could be color-coded badges for different divisions; for example, people attending fuel cell presentations will have one color badge and people attending battery presentations will have a different color. That way people are easier to spot and network with.

2.12. Overall, how satisfied are you with the review process?

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	1	3	46	47
0%	1%	3%	47%	48%

5 Comments

- *From 2 respondents:* The AMR is a great meeting.
- The review process was excellent.
- It would be hard to see something like this happening in the other countries.
- This has become an excellent technical meeting for the scientific community and complements the Directions in Engine Efficiency and Emissions Research (DEER) conference very well.

2.13. Would you recommend this review process to others, and should it be applied to other DOE programs?

	Number of Responses	Response Ratio
Yes	94	42.1%
No	2	<1%
No Responses	127	56.9%
Total	223	100%

9 Comments

- This is the example for how it should be done.
- In spite of some hiccups, this review is still the best that DOE offers.
- A consistent application of this type of review across the Office of Energy Efficiency and Renewable Energy programs would be welcome.
- The process is well run and helps performers exchange information, as well as provides a public face for the reviews.
- Except for the frequency (only once per year), the format is fine.
- The review process is too large.
- Smaller reviews with more reviewer/principal investigator one-on-one time would provide a better technical review. The format used in the current AMR process is excellent for providing the interested public with a good overview of the program.
- The review process is good, but it is unclear whether any funded projects ever really get terminated if peer reviewers find they do not meet the requirements for sustained program funds.
- It is a pretty good system, but conflicts of interests cannot be eliminated with this review model—they can only be mitigated. It would also be nice to add a summary from the program manager on the goals right before the technical session to remind everyone of the reason for the target numbers and objectives presented in many of the talks.

2.14. Please provide comments and recommendations on the overall review process.

12 Responses

- Supplying all presentations on a CD at registration was very much appreciated.
- This participant likes the AMR peer review process and is thinking of implementing a similar process for R&D project review in his company.
- As a PhD student in the fuel cell field, this participant is interested in participating as a peer reviewer. Students would definitely learn a lot by being a part of this process.
- Hearing the specific presentations and talking with the presenters afterward was interesting; meeting several presenters at one time was advantageous.
- Considering how many projects had to be reviewed, the process seemed to be more effective than has been seen in many other programs.
- The overall review process was satisfactory and provided the attendees with a good chance to get to know each other.
- It is hard to believe that most of the projects are on schedule and on budget.
- The reviewers should ask about the commercial relevance and the potential for commercial success. For too many of the funded projects it is unclear how useful the project outputs will be.
- The presentations should be more structured. An overview slide that mentions all of the subprojects of the principal investigator (PI) with the bulk of the presentation focused on just one or two efforts that are meeting project goals would be useful. Also, a slide that addresses the approach for meeting the future goals was lacking.
- The PIs need lessons in “SMART” (specific, measurable, attainable, relevant, and time-bound) milestones. Many milestones listed were simply tasks, such as “measure such-and-such property.”

- A major error by the AMR planners was setting the AMR to be the same week as the Electrochemical Society meeting, whose date was set years in advance.
- The starting time of the event could be improved. When travelling from the West Coast, it is impossible to get to the event by the start of the plenary if one leaves on Monday morning. It does not make a lot of sense to pay for an extra hotel night to travel on Sunday and only have a half-day event on Monday. Please start later on Monday.

3. Responses from Reviewers

3.1. Information about the program(s)/project(s) under review was provided sufficiently prior to the review session.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	3	2	16	19
0%	8%	5%	40%	48%

10 Comments

- *From 4 respondents:* The information on the programs and projects under review was provided sufficiently prior to the session.
- It was useful to have the slides ahead of time.
- It is essential to have the project materials ahead of time to help formulate questions in advance.
- Due to confidentiality issues, many projects could not provide certain technical details.
- Providing the program summaries a week or two before the review would have been helpful.
- After resetting my password and getting access to the system, on the day before my sessions my password was no longer active and I could not see the slides in advance.
- It would have been good to have been able to read more about each project prior to the presentations. Including the abstracts in the meeting agenda would be helpful. It would be great if more information about each project were available online (other than through the PeerNet system).

3.2. Review instructions were provided in a timely manner.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
1	0	0	16	23
3%	0%	0%	40%	58%

3 Comments

- Yes, instructions were provided through webinars and again at the meeting.
- There were two webinars in advance instructing the reviewers on how to use the PeerNet system and the criteria by which the research projects were to be judged.
- Even though this reviewer signed up as a reviewer in February, he did not receive any review assignments and had to work this out with the individual program managers during the meeting, which was a frustration.

3.3. The information provided in the presentations was adequate for a meaningful review of the projects.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
1	2	4	29	4
3%	5%	10%	73%	10%

14 Comments

- The presentations provided adequate information for reviewers to prepare questions to the presenters.
- The backup slides and the specific slides for the reviewers are really useful for better evaluating the level of work performed.
- A 20-minute presentation with a 10-minute question-and-answer period is a short time to present all of the relevant information about projects with a broad scope. However, the presenters did a good job under this time constraint, and the program managers did a good job of enforcing it.
- The quality of the material varied in some cases.
- For the most part, the information provided was adequate to give a meaningful review. For one of the newer projects, information protection issues prevented the principal investigator (PI) from disclosing much at all about the chemistry being used, which made it difficult to provide a meaningful review.
- Some presentations have more useful information in the text than others.
- This year, many projects had less to present due to the delayed funding availability.
- There should be an option to present more detailed slides on the accomplishments if they were achieved.
- The “reviewer only” information was helpful; plus, looking back at prior reviews (on the DOE website) by and/or about the same person/team was also helpful in evaluating the projects.
- The presentations are quite short. Some of the pro forma material (such as the barriers addressed) tends to be less useful; more information on the technical approach/results would have been useful.
- The “proprietary” dodge to full disclosure is a handicap in too many projects. Often this is used a full year after the start of a project and discovery of an effect. This should be discouraged.
- The projects funded at \$15 million were allocated the same time for review as those allocated \$0.5 million. The time allocated has to be equitable, or else this review is not very effective.
- Some of the presenters continue to give presentations that only they themselves and possibly a few other highly specialized experts in the world can understand.
- Several of the presentations did not have the reviewer-only slides and some presenters did not respond to reviewer comments from previous years. These reviews are only as useful as the PIs make them.

3.4. The evaluation criteria upon which the review was organized (see below) were clearly defined.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

	Highly Disagree	Disagree	Neutral	Agree	Highly Agree
Relevance	0	0	1	22	17
	0%	0%	3%	55%	43%
Approach	0	0	1	24	14
	0%	0%	3%	62%	36%
Technical Accomplishments and Progress	0	1	1	21	16
	0%	3%	3%	54%	41%
Technology Transfer and Collaboration	0	0	5	22	12
	0%	0%	13%	56%	31%
Proposed Future Research	0	1	4	22	12
	0%	3%	10%	56%	31%

13 Comments

- The evaluation criteria provided a good template for review.
- The criteria for evaluation were clear and concise. The criteria are an effective assessment of the progress and the future of the program being rated.
- There was an absence of some specifications.
- These criteria are rather general and difficult to quantify.
- The mention of “new results” used in some presentations should be generalized.
- It might help if the criteria for the approach and the proposed future research are described in more detail.
- The topic of future research was interesting. Because some projects were ending, it was not clear how to score this field.
- It was occasionally challenging to evaluate projects that were either completed or highly specialized, with respect to DOE’s overall goals.
- It would be useful to provide a reminder for the reviewers of how the research components address specific components in the DOE multi-year research, development, and demonstration plan.
- The technology transfer and collaboration sections were hard to judge. Most of the principal investigators just provided a list of organizations, without specifying what degree of technology transfer or collaboration occurred.
- Regarding collaboration, not only the names of collaborators and the actions, but also the collaboration scheme should be mentioned to describe what kind of network/relation exists there.
- Collaboration was a mixed bag. In some cases, a large company has the people and resources needed in-house. In others, quality leverage is useful and appropriate. In some cases, a partner seems to be there just so it can claim collaboration. Some refinement of these criteria might be useful.
- The technical criteria are geared toward projects that take place in laboratories and do not reflect the efforts required by technology validation projects that are fielded in a community and require a whole range of different challenges, such as getting legal agreements, permitting, and codes and standards requirements in place. There is more to many projects than just working in a laboratory under a defined structure.

3.5. The evaluation criteria were adequately addressed in the presentations.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

	Highly Disagree	Disagree	Neutral	Agree	Highly Agree
Relevance	0	2	6	23	9
	0%	5%	15%	58%	23%
Approach	0	1	4	24	10
	0%	3%	10%	62%	26%
Technical Accomplishments and Progress	0	1	4	24	10
	0%	3%	10%	62%	26%
Technology Transfer and Collaboration	0	2	9	21	6
	0%	5%	24%	55%	16%
Proposed Future Research	0	1	7	25	
	0%	3%	18%	66%	13%

8 Comments

- The presenters know the criteria and tend to emphasize them.
- The researchers were generally pretty good about making it clear what belonged in each category.
- Most of the presenters were careful to structure their presentations around these criteria in order to make the reviewers' jobs easier.
- This was good for the most part, but not across all projects. Special recognition should be given to Oak Ridge National Laboratory. Its presentations were well organized and contained all of the required information.
- In some cases, it was difficult to evaluate a project on one or more criteria due to insufficient information.
- Sometimes progress is being made in a very meaningful way despite not necessarily meeting evaluation criteria. That is the nature of R&D. DOE should be flexible here.
- Technology transfer was barely addressed. The proposed future research was addressed, but it was kind of an afterthought in most cases.
- In most cases the industry/market relevance is not obvious. The slide on collaborations at the end of the presentations is often not talked about in detail.

3.6. The right criteria and weightings were used to evaluate the project(s)/program(s).

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

	Highly Disagree	Disagree	Neutral	Agree	Highly Agree
Relevance	1	1	4	24	10
	3%	3%	10%	60%	25%
Approach	0	0	5	25	10
	0%	0%	13%	63%	25%
Technical Accomplishments and Progress	0	1	5	26	8
	0%	3%	13%	65%	20%
Technology Transfer and Collaboration	1	1	9	22	7
	3%	3%	23%	55%	18%
Proposed Future Research	0	0	5	27	8
	0%	0%	13%	68%	20%

4 Comments

- The relevance category is confusing—the research contracts should have been awarded because the research will lead to the displacement of oil. Weighting this by 20% is a “gimme,” which means that everyone gets at least 20%. Also, sometimes the collaborations felt a bit like checking boxes, like the collaborators were listed, but they did not seem integral to the research program.
- The technical criteria are geared toward projects that take place in laboratories and do not reflect the efforts required by technology validation projects that are fielded in a community and require a whole range of different challenges, such as getting legal agreements, permitting, and codes and standards requirements in place. There is more to many projects than just working in a laboratory under a defined structure.
- Because technology transfer and collaboration was given a 10% weight, some of the teams added universities that did not play a real role. To satisfy this requirement, the presenters were showing group photos to support their team collaboration. The weight should be reduced to 0%.
- In terms of one particular project, this reviewer wonders how much the reviews are really taken into account. Based on the scores and the reviewer comments from the past 3 years, it is not clear how this project has continued. This is very frustrating for a reviewer.

3.7. During the Annual Merit Review, reviewers had adequate access to the Principal Investigators.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	1	6	19	14
0%	3%	15%	48%	35%

6 Comments

- The location, breaks, and lunches are perfect to have access to principal investigators (PIs) and many other people.
- The single most valuable part of the AMR was the ability to meet and talk with the PIs.
- There were a few presentations that had the typical stand-ins as presenters. Though, in general, those presenters were adequately informed about the project at hand.
- The question and answer time was too short to get into much detail.
- It was good that the moderator required the peer reviewers’ questions to be asked first.

- It would be a good idea if there was a chance for some breakout sessions where only reviewers and PIs were present, preferably each evening that a presentation is made. There could also be a side room next to the posters.

3.8. Information on the location and timing of the projects was adequate and easy to find.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	1	3	17	19
0%	3%	8%	43%	48%

3 Comments

- The schedule was easy to follow.
- The review was well organized as usual.
- Kudos to the session managers for ensuring the timing was maintained.

3.9. The number of projects I was expected to review was:

	Number of Responses	Response Ratio
Too many	1	<1%
Too few	9	4.0%
About right	30	13.4%
No Responses	183	82.0%
Total	223	100%

8 Comments

- Reviewing about 20 projects over the 3 days of the AMR was just fine.
- This reviewer only had three projects to review, but others had more.
- This reviewer reviewed two projects and had been expecting to review more.
- Reviewing four projects was good—many more than that would have impacted the ability to participate in other activities at the AMR.
- It was fine to review 10 projects, but reviewing 8 technical projects in one poster session was a bit too much. The last two projects did not receive the same degree of attention that the first few did.
- This reviewer was present all week, but was only asked to review Thursday and Friday. One of those days all of the sessions were back to back. It would be nice to spread the evaluations apart a bit more.
- This reviewer had one project this year, compared to the previous years when he reviewed 4–5 projects—this seems questionable. Even though the reviewer was travelling from Germany, 3–5 projects would be reasonable.
- This reviewer would have preferred to review more presentations and was frustrated that he was not able to do so.

3.10. Altogether, the preparatory materials, presentations, and the question and answer period provided sufficient depth for a meaningful review.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	3	5	21	11
0%	8%	13%	53%	28%

11 Comments

- This was a nicely run program review, as usual.
- This was this reviewer's first AMR, and overall it was an excellent experience. A lot was learned about the current DOE research in the reviewer's areas of interest.
- This reviewer only did posters so he was able to ask the principal investigator questions as necessary.
- For some of the large projects, the time is very compressed.
- The reviews were much more meaningful when the meetings were smaller and in-depth.
- The question-and-answer part of the sessions was inadequate to delve deeply into a project's progress.
- Every project submits an annual report to DOE; access to these reports prior to the review would be useful for reviewers to familiarize themselves with the projects.
- This reviewer could have provided a more meaningful review if the presenters expressed key factors in a readily intelligible way for non-experts.
- The time allocated for presentations should be scaled up for larger projects.
- This is very project dependent. Some of the larger projects are quite diverse with many activities, and it is difficult to discuss the accomplishments in the time or slides allotted. A longer presentation time or perhaps a more detailed report of progress in the supplemental slides for these projects would make for a more meaningful review.
- Yes, except for the "proprietary dodge" by some presenters and some things falling through the cracks when the application of performance criteria is too rigid. Regarding falling through the cracks, it is good to remember that the goal is to learn how to improve, not to sell a specific idea. Incremental improvement at the expense of revolutionary change is not the way to go.

3.11. Please provide additional comments.

11 Responses

- The AMR is a very well-run exercise and is essential to the process of evaluating progress in the Vehicle Technologies Office and Hydrogen and Fuel Cells Program.
- Specifications for each project should be submitted to reviewers in confidence and a few days before the presentations.
- There would be more focus on the Vehicle Technologies Office if its reviews were separate from the Hydrogen and Fuel Cells Program's reviews. The reviewers do not seem to overlap all that much, and the very large number of people present is a barrier to effective networking.
- Some projects are on "core technology" and it would be nice to know if that technology was being developed further or just "put on the shelf." For those projects that are exploring available core technology, it would be nice to know their success in having that technology commercialized or at least transferred to projects with that purpose.
- A list of suggested questions to consider when reviewing posters would have been helpful, especially with regard to specific performance or cost targets that need to be met or testing protocols that should be satisfied.
- If DOE can offer some monetary compensation to reviewers, it could tap into a vast pool of retired technical experts from the industry and those from foreign countries as well. Also, DOE should look into the possibility of using web conferencing facilities for potential remote reviewing. This might save some money, too.

- Some presentations were missed because of scheduling conflicts with other presentations.
- The elimination of the first Plenary Session on Monday would have enabled elimination of the Friday project reviews.
- There are too many small projects being reviewed in oral sessions. A bar, such as a minimum level of funding, should be applied. In addition, really large, complex projects should be allotted additional time, even as much as two 30-minute slots.
- This meeting is very unpleasant because of the crowds and high noise level. It is very hard to hear at breaks and meals.
- It is very disturbing that there seems to be no “quality control” in terms of defining how well various additives or improvements perform. There are way too many presentations in which the PI states that something that he/she did improved durability from X to Y cycles, with no indication whether Y is actually any good. Standards need to be enforced.

4. Responses from Presenters

- 4.1. The request to provide a presentation for the Annual Merit Review was provided sufficiently prior to the deadline for submission.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	2	2	28	31
0%	3%	3%	44%	49%

10 Comments

- *From 3 respondents:* The deadline for submission was too early and it should be pushed back to one month before the presentation.
- *From 2 respondents:* It would be useful to be able to update the presentation with more current information closer to the review date.
- Timing is a little tight, but it can be managed because it is already known roughly when the request for the presentation will occur.
- An approval from a cooperative research and development agreement (CRADA) industrial partner can sometimes take a while to get.
- The timetable for the AMR presentation submission is typically at odds with project timelines in relation to the fiscal year.
- A mistake regarding the presentation date in the first version of the program led to a cost of changing travel plans.
- The requirement to submit materials approximately 8 weeks in advance necessitated “estimating” whether milestones scheduled for achievement in the 8-week run-up to the presentation would actually be achieved. This impacts comments on the accomplishments to date as well as on the future work sections. It is understood that having a large number of presentations previewed by a small number of reviewers requires a long lead time, but it would be appreciated if there could be a way to substitute one-for-one a few key slides to support presenting the most current information.

4.2. Instructions for preparing the presentation were sufficient.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	0	3	26	34
0%	0%	5%	41%	54%

2 Comments

- The step-by-step guide of what information goes on the slides was great. Apparently it is “not OK” during the actual presentation to invite attendees to offer suggestions in areas where the project is experiencing difficulty. The presenter missed those instructions. If that restriction is not in the instructions, it is recommended that it be added.
- The presenter tried to follow the format requested for the presentation but found that many other presenters largely ignored it. Some presenters did conventional “storytelling” presentations, where it was not clear what they did during this fiscal year, what they did previously, and what other people had done outside of their project. The “storytelling” presentations were well received by the general audience, but it is not clear what the reviewer feedback will be.

4.3. The audio and visual equipment worked properly and were adequate.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

Highly Disagree	Disagree	Neutral	Agree	Highly Agree
0	2	3	19	38
0%	3%	5%	31%	61%

6 Comments

- A malfunctioning projector was quickly replaced.
- The “red box” to get to the next presentation was a source of confusion for many people, even though an email notification did describe how it would work. This presenter thought it was fine and that it worked well.
- The lapel microphone is preferred.
- There was no audio equipment in this presenter’s room, so it was difficult to hear the speakers and questions.
- The speaker’s time clock failed during the presentation—this was not noticed until the allotted time had been exceeded.
- It would be good to have a mouse with the computer for starting movies. It would be good to have the computer set up so that the mouse can also be used as a pointer. A pointer did not seem to be available at the beginning of the session.

4.4. The evaluation criteria upon which the Review was organized were clearly defined and used appropriately.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

	Highly Disagree	Disagree	Neutral	Agree	Highly Agree
Relevance	0	1	7	29	22
	0%	2%	12%	49%	37%
Approach	0	0	4	34	21
	0%	0%	7%	58%	36%
Technical Accomplishments and Progress	0	0	5	30	24
	0%	0%	8%	51%	41%
Technology Transfer and Collaboration	0	0	8	32	19
	0%	0%	14%	54%	32%
Proposed Future Research	0	0	6	34	18
	0%	0%	10%	59%	31%

2 Comments

- The project relevance is crucial so the principal investigators can see how their work fits into the larger picture. However, this respondent is not as sure about technology transfer.
- Without seeing the review, it is hard to evaluate this. There is a concern that “storytelling” presentations may be evaluated based on background information, the results from other projects, and the results from prior years. “Storytelling” presentations were received well by the audience, but it is not known how the reviewers evaluated those presentations.

4.5. Explanation of the questions within the criteria was clear and sufficient.

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

	Highly Disagree	Disagree	Neutral	Agree	Highly Agree
Relevance	0	2	5	33	17
	0%	4%	9%	58%	30%
Approach	0	1	4	33	19
	0%	2%	7%	58%	33%
Technical Accomplishments and Progress	0	1	6	32	18
	0%	2%	11%	56%	32%
Technology Transfer and Collaboration	0	1	7	31	18
	0%	2%	12%	54%	32%
Proposed Future Research	0	1	6	34	15
	0%	2%	11%	61%	27%

3 Comments

- It seems like most projects are bunched around a score of 3.0. Using a 10.0 scale instead of a 4.0 scale may help differentiate projects that are close to the average. Using at least a 5.0 scale might help alleviate this problem.
- Two respondents did not understand this question.

4.6. The right criteria and weightings were used to evaluate the project(s)/program(s).

The top number is the count of respondents selecting the option. The bottom percentage is the percent of the total respondents selecting the option.

	Highly Disagree	Disagree	Neutral	Agree	Highly Agree
Relevance	0	3	8	27	17
	0%	5%	15%	49%	31%
Approach	0	2	7	27	19
	0%	4%	13%	49%	35%
Technical Accomplishments and Progress	0	1	6	27	21
	0%	2%	11%	49%	38%
Technology Transfer and Collaboration	0	2	13	24	15
	0%	4%	24%	44%	28%
Proposed Future Research	0	1	8	29	16
	0%	2%	15%	54%	30%

5 Comments

- This respondent did not recall being shown these weightings.
- It is hard to comment on this before the comments come back.
- It is not clear if it is appropriate to use the same weighting throughout the project timeline, but there are no recommendations to make on specific adjustments.
- Too much emphasis is placed on the relevance, approach, and collaboration criteria. More emphasis should be placed on the technical accomplishments and progress, which is the heart of the work.
- It is logical to use the same metrics to evaluate projects with clearly defined criteria and weightings. However, there are other factors that make a project successful, which might be difficult to judge by using the same framework. The current method of evaluation will also guide the research to come up with the results to satisfy the metrics; this is not necessarily in line with the intent of the project. Some soft weighting factors might be useful for the program administration to consider.

4.7. Please provide additional comments:

6 Response(s)

- Overall, it was a well organized and smoothly run review.
- The presentation room (Crystal Gateway Alexandria Room) was too small. The ceiling was quite low, so audience members in the back had a hard time seeing the slides presented.
- The presentation time should be increased to 30 minutes, plus 10 minutes for questions and answers.
- The indemnification clause requirement is controversial at best, and it is against the advice of our legal department. Hopefully next year this can be corrected.
- For all sessions, a 15-minute overview talk would be helpful with three key points: (1) the current state-of-the-art or “best practice” in industry and key metrics (two or three), (2) the key research challenges and directions (two or three), and (3) the performance gains/targets for the key research challenges and directions according to the two or three metrics.
- The speaker timer (with giant numbers indicating how much time is left) that points right at the speaker is distracting when giving a presentation. It would be better to have a clock that presenters can look at a couple of times, but that is not staring the presenter right in the face.