

APPENDIX C: FY 2008 MERIT REVIEW AND PEER EVALUATION MEETING: FEEDBACK AND RECOMMENDATIONS

These notes summarize the comments received from various participants at the June 9-13, 2008 Review:

- Section 1:** Comments received from Peer Reviewers during feedback sessions held immediately after each subprogram track was completed. The comments received are organized with the particular subprogram session where they were received, although many comments are general.
- Section 2:** Scores and summarized answers to questions from the Review Questionnaire, filled out by approximately 78 of the participants.

Section 1 – Peer Reviewer Comments

Analysis Reviewer Wrap-up Session

Tuesday, June 10, 2008, 10:30 a.m.
Facilitator: Fred Joseck

Presentations

- Last year's subprogram presentation featured a slide at the beginning which introduced all the projects and showed their linkages to one another. Putting such a slide back into the presentation would be helpful.
- Assumptions should be discussed early on in the presentation.
- Reviewers would like to be able to see the models before the oral presentation is given on them.
- More information should be provided on why the particular approaches and methodologies chosen for each model were actually used.
- Projects with more funding should have longer presentations.
- The presentations did not always clearly state what improvements and changes have been made to the model since last year.

Projects

- Quality of the projects and presentations has increased since last year. Moving in the right direction. The quality of the work seems to be improving also – although this perception might be due to better presentation of the work.
- One reviewer suggested that the presenters should have approached more of the smaller companies in their research to obtain inputs, as opposed to just the larger ones. They wouldn't necessarily have to contact the firms individually to accomplish this action; they could have established contact with them through the U. S. Fuel Cell Council.
- Not always clear how the outputs from the models will be used.
- One reviewer requested justification as to why a simpler, more cost-effective model was not used. It often seems that overly complex models are used to produce basic results.

Reviewer Assignments

- Reviewers generally preferred to review several projects within one session, rather than have them broken up over time and across different program areas. This allows ability for Reviewer to get a general comparison of one presentation to others.

Education Reviewer Wrap-up Session

Thursday, June 12, 2008, 6:15 p.m.

Facilitator: Christy Cooper

Review Comments

- After solicitations are awarded, the Program should work with projects to determine goals and metrics.
 - Response: Metrics were proposed for the two student projects but because of funding cuts, they needed to revise their scope. Specifically, NEED partnerships have helped to sustain their work.
- It was unclear whether metrics were met. It was difficult to evaluate projects without metrics - they should have been presented with clear metrics. By establishing metrics, the Program can maximize "bang for buck." Projects should not have been presented without showing significant measurable progress.
 - Response: We included projects in the session based on funding for this year.
- Furthermore, metrics should be established for each market (target audience) to determine success scale.
- The budget for NEED was unclear. Did she say that the budget was zeroed?
 - Response: No, the Education budget was zeroed in FY05 and significantly reduced in FY06. As a result, we were unable to fund the MS-HS projects (NEED) and thus their total funding was reduced, not zeroed.
- Outreach and survey should be integrated in a more meaningful way – one should inform the other.
- H2IQ and H2 & You seem to be redundant projects.
 - Response: Through H2 & You, DOE works with partners in industry and academia to reach out through both traditional (newspapers, magazines, television, etc.) and new media (blogs, websites) to get the word out about hydrogen and fuel cell technologies. This NHA organized group can perform the rapid response work in the blogosphere that the government simply can't do. In contrast, H2IQ solely promotes the DOE hydrogen and fuel cell message by producing informational resources such fact sheets and podcasts to educate the public.

Fuel Cells Reviewer Wrap-up Session

Thursday, June 12, 2008, 6:15 p.m.

Facilitator: Nancy Garland

General Review Comments

- Colleague from Opel – first time – amazed at well-organized and stringent the meeting is. “Spectacular”.
- More adamant about the cell phones.

Projects

- Why still psi?
- Hard time with recommendations and apply it to all three types of talk (industry, university, and labs). Unfair to expect that you'd rate a fundamental characterization project against addressing barriers. Complain more about people spreading thin. Assume project wouldn't be here, if not geared toward goals.
 - Should we review earmarks?
 - Presenters are given the review criteria. Sometimes that's hard to see. Maybe there should be better review of the presentations.
 - Agreement. Some projects will be five to ten years before commercially viable and some programs less than five, especially since moving beyond automotive. Makes it difficult to rate on the same criteria.
 - The numbers aren't as important as the comments? Try to give it a number, but I know they read the comments and try to put something that will help.
 - Scores are scrutinized very carefully, if they have a low score. Cut-off varies year-to-year.
 - Budget split can be affected by the scores.
 - The projects just about learning are a little bit more difficult.
 - Maybe green, yellow, red would be better?
 - Need a scale, though, in order to judge where you are.
 - Materials (fundamentals), characterization, applications, demonstration.

- Same categories, different guidance.
- Like the forms as they are, they provide continuity, and there's interpretation. Maybe DOE can provide guidance.
- Examples all go back to too high level.
- If they developed the tool, would you use it.

Presentations

- Thirty percent of the slide is logo and all the graphics and text are un-readable.
 - Need a standard for what's allowed.
 - Max and min text size.
 - Only so many statements per slide.
- Too much detail w/o:
 - Maybe just a summary before the details.
 - Already required.
 - Maybe score on presentation.
 - But ... the presentation is sort of a formality – can't rely on presentation.
 - Sometimes, though, verbal more informative.
- Need a better method for identifying that time is running short.

Evaluation Forms

- Need different forms for Technology Validation. The form as written is irrelevant to both.

Reviewer Assignments

- Would have appreciated panels for review. Grouping reviews. Need to watch them all to review them.
 - Disagreement – review all would mean that you review all night long. A set of eight is tolerable.
 - Actually – not disagreement.
 - One vote for panel style.
 - Not concerned about back-to-back reviews, so long as in the same room.

Reviewer Planning/Logistics

- We always have a conversation about grading after the review, might want discussion at the start.
- Reviewer logistics:
 - Many changes in the last week.
 - Understand that this happens due to things like COI forms, etc., but would appreciate some additional information.
 - A week ahead of time would be nice.
 - The first pass was too late.
 - A form ahead of time for COI.
 - Allow reviewers to pick which projects they can and cannot do.
 - Complaint about doing the work earlier.
 - “Educational class scheduling tools would help.”

Production and Delivery Reviewer Wrap-up Session

Thursday, June 12, 2008, 6:15 p.m.

Facilitator: Rick Farmer

Projects

- Seems like there is less and less to criticize (from a reviewer who has reviewed for the last 5 years).
- The cost per kg of hydrogen given by presenters should have supporting evidence. One reviewer does not believe the numbers. The hydrogen would be worth more if sold as natural gas at the higher price natural gas commands. Why sell hydrogen for less than \$3/kg when an equivalent amount of natural gas can command as much as \$11?

Presentations

- Moderators did a good job keeping sessions on schedule.

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- Production presentations on Wednesday afternoon were running 10 to 15 minutes ahead of schedule. This is a problem. Reviewers sometimes go from one session room to another and depend on adherence to the schedule in order to hear the presentations.

Evaluation Forms

- The first question is always daunting – whether it meets the President’s Hydrogen Fuel Initiative. Some reviewers thought this was not a necessary question – the projects should be relevant, or are assumed to be relevant. However, a reviewer pointed out that programs do get off track, and that is why the question is asked.
- Perhaps the weighting should be changed around or the wording of the first and second question should be changed. It is difficult for reviewers to know what the shortfalls of the program are. Questions with more in-depth rating info for the 1-4 scores could help.
- The evaluation forms should include a place to evaluate evidence of creative activity. As an example, number of patent applications filed or number of articles published in peer-reviewed journals.

Reviewer Assignments

- Reviewer felt it would be helpful if he reviewed the same presentation each year. However, another reviewer from six years ago feels that it is hard to know what the progress has been compared to six years ago. A third reviewer said it is helpful to look at the slides from last year before looking at this year’s slides, in order to see the progress.
- Reviewers would like to review a block of presentations within a specialty area.

Reviewer Planning and Logistics

- The room was set up well, with outlets for laptop computers.
- A reviewer received last-minute assignment changes on Saturday night, and had to scrap all of the preliminary work he had already done for a bunch of evaluations.
- Reviewers should be asked which areas within production they are best equipped to review.
- Reviewers need to be told what milestones have been reached. The template for presentations needs to give the background history of this project. Presenters need to assume that their audience is made up of generalists, not experts on this specialty area. Presenters are getting too deep into the details. Reviewers are often not in the area being presented, so presenters need to make it clear and simple what is being accomplished and provide some basic understanding of the specialty area to understand this project.
- More laptop computers in the Reviewer Information Room on tables for use.

Safety, Codes and Standards Reviewer Wrap-up Session

Thursday, June 12, 2008, 6:15 p.m.

Facilitator: Antonio Ruiz

General Review Comments

- No major problems; indicative of documents arriving on time and when they are needed.
- Overall quality was very high.

Projects

- Safety was more comprehensible than, for example, Storage.
- Overlap between NREL and SNL.
 - Response: CVD modeling is weak.
- Be clearer on defining the difference between NREL and SNL’s CFD work.
- FQ work gives reviewer “heartburn.” Companies that have big stakes in the outcome are not sufficiently at the table.

Presentations

- Emphasize the relevance of what you are presenting, not elevator speech.
- Be fluid, don’t just read the slides.

- A presenter was giving a presentation that he did not write.
- People should time their presentations to fit in 15 minutes.
- All DOE TDMs should reinstitute that all presentations include a safety slide or reference (at the AMR).

Reviewer Planning and Logistics

- There was general disorganization of materials. Reviewers have to go to three different places. Should have one packet! Not several!
- Assignments and codes changed, SCS vs. SA.
- Need better communication with reviewers. Get back to reviewers before the meeting – one way or the other.
- Quicker comment/correspondence turn-around time.
- Orientation meeting was designed for veterans.
- Reviewers need to receive info and assignments at least a week and a half before the review – not the Friday or the night before!

Storage Reviewer Wrap-up Session

Thursday, June 12, 2008, 6:15 p.m.

Facilitator: Sunita Satyapal

General Review Comments

- Great meeting.
- Please turn down the air conditioner.
- 1st time reviewer (and international): It was interesting to see what happens when you throw a ton of money at a project; it was good to see that swinging back to good and interesting results.

Projects

- Very brave with research – they went with the down-selections.
- Regarding the basic research – different people but would be really nice to be able see what they are working on.
 - Response – the BES projects are rotated each year (not reviewed).

Centers of Excellence

- Understood the coordination in the Centers of Excellence – was explained better.
- Few cases where important to understand systems level requirement.
 - Response – we do try to emphasize this, will try to keep reiterating.
- Really think CoE concept is a success story for DOE, they foster collaboration beyond our wildest dreams. It will be interesting however what the future holds – there will be a decision point.
- Noticed going to downgrade tank. It will be very important to almost force communication between the different centers almost as much as within each individual center.
- When go forward with new CoE – have some reference on collaboration between existing.
- Should set up targets as systems targets. What really should happen – take system materials that really have most chance of making it and putting everything into them. (CoE).
- Regarding the engineering CoEs – recommend that regardless of the results generated (won't be much), try to highlight the CoEs that will show most promise. Support the OEMs, would like to hear the opinion.
 - Response – we can't show all projects, but need feedback on projects that are really good and also those that aren't so good (funding decisions are made). This is why there's a spread of both good and bad projects.
- Clarification – specifically talking about the engineering CoE – what are researchers discovering, specifically for next year?
- Project management of individual CoEs is excellent, but papers, etc. sound more like a conference, not an AMR. Would like to see more emphasis on connectivity rather than the technical goals and aspects.

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- Natural consequence of the engineering CoE – as get more materials, would like to see some real studies not involving pure hydrogen. In the real world we won't be using pure hydrogen.

Presentations

- Should definitely encourage presenters to present to a more general audience... not everyone is necessarily an expert – a generalist, not an idiot.
 - Response – should let know if you feel something is not appropriate.
- Presentations don't have to necessarily be last-minute, up-to-date – reviewers being more prepared should be more important.
- One presenter used titles in his presentation that matched the areas on the evaluation forms. This made his project extremely easy to review.
- Couldn't the evaluation forms and presentation templates just match? In the template that gets sent out, make the titles the same – particularly for the CoE presentations.

Evaluation Forms

- One reviewer said the CoE form was better/improved.
- Another said the CoE form is redundant. He wondered whether these forms get sent to presenters and noted that some questions on the form weren't really answered by any of the presenters.

Evaluating Projects

- PIs did distinguish more clearly what they did this year vs. what they did in past years, with the exception of section 3. How are reviewers to rate the performance – just past year or overall?
- Feedback in Storage compared with that in other sessions – FC reviewers appear to be a lot rougher on relevance.

Reviewer Assignments

- One who didn't have too many projects said it wasn't too bad.
- One longtime researcher but new reviewer said 9 reviews is a lot to review for a new reviewer. He would like more time to be able to review. He recommended that new reviewers should be warned to prepare before hand

Posters

- One reviewer felt a little uncomfortable with the number of posters he was given in a single poster session. He was not able to give posters as much time as the oral talks. With posters it's difficult to get more than 5-10 minutes without dominating the presenter. It was recommended to have a brief 30 minute poster session for reviewers only prior to the open session. It was noted that presenters would not be anonymous, but then again are they really anonymous?
- Another reviewer's comment on posters was that someone should give a 30 minute overview of all the projects presented as posters.
- 1st time attendee and reviewer – What is the difference between posters and orals – how do you select which is poster and which is oral?
 - Response – there are various criteria. Projects that are relatively large with a lot of results are preferred for an oral presentation, major project/significant results are oral; also try to vary so not oral every year
- Would it be possible to not have posters? Have 15-minute presentations in place of the posters?
 - Response – don't really have time unless 2 weeks, 15 min is too short to present so much
- DEER conference has done that is effective – allow 2 minutes for each poster presenter to say something about their projects (cut them off after 2 minutes) – as an introduction to the posters could have directly following the oral session on the night of the posters

Reviewer Planning/Logistics

- hard to review presentations in such a short time – a day or so – would be better to know something about what presenter is doing before hand
- want the presentations and assignments earlier
 - Response – get presentations 2-3 weeks... want to have reviewers only in storage

Technology Validation Reviewer Wrap-up Session

Monday, June 9, 2008, 6:15 p.m.

Facilitator: John Garbak

Projects

- Seems like there is less and less to criticize (from a reviewer who has reviewed for the last five years).
- Seems like virtually every fuel cell development has batteries as a major component – the trade-off is between the size of the batteries and capacity of fuel cell.
- Some of the Fuel Cell projects are doing very similar work, as well as some projects in analysis.
- For future projects, should ask: Does it advance the state of the art? Or the state of the research?

Presentations

- A brief history of the technology validation subprogram (review that and provide some substance) would be useful in the subprogram presentation. Also, give more specifics and more substance than the plenary presentation yesterday.

Evaluation Forms

- Is there a way to enable spell check in Excel?
 - The evaluation form must be locked in order for the data to be correctly extracted. Locking the file disables spell check in Excel.
- We should look at what are we now starting to learn and what we should we do next? Recommendation to add to evaluation form: How do we take this ahead?
- Trouble talking about and rating relevance – at this point, in Technology Validation, shouldn't it be relevant if it is at the point of demonstration? Recommendation to change evaluation forms to better fit the Technology Validation activity area? (One reviewer mentioned that he had volunteered to help out with a new form previously.)
- There's the possibility that something is relevant but it is inappropriate for the government to fund. For example, if the BMW fleet was a project being funded (it's not), it would be a relevant but inappropriate project for the government to fund.
- Maybe combine the relevance question with "appropriateness for the government to fund." Or even just make that question a box to check rather than score. Is it sufficiently high-risk for the government to fund? If industry is going to do it by itself, the government should not fund.

Reviewer Assignments

- One reviewer commented that he would rather review all of the projects on similar topics – instead of just doing every other one. He brought up the point that assigning a group of reviewers to a single group of projects with similar projects. That way, each project would have the same high and/or low scoring reviewers.
- One reviewer stated he would not like to review projects consecutively.

Section 2 – Review Questionnaire

Evaluation Questionnaire Results - 2008 DOE Hydrogen Program Merit Review and Peer Evaluation Meeting

2007	2008	
61	78	Demographic Questions
		1 a What is your role in the review?
14	19	Peer Reviewer
11	23	Presenter of a Project -- Oral or Poster
1	1	Presenter of Program Overview
34	36	Attendee, neither Reviewer nor Presenter
		b What is your affiliation?
0	2	Government agency directly sponsoring the program under review
16	31	National/government lab, private-sector or university researcher whose project is under review
16	16	In an industry directly involved in the program under review
6	4	In an industry with interest in the work under review
3	3	Government agency with interest in the work
11	4	National/government lab, private-sector or university researcher not being reviewed, but who has an interest
5	13	Other (descriptions below)
		Questions for ALL Attendees
4.6	4.6	2 Purpose and scope of the Hydrogen Program Review were well defined.
4.3	4.4	3 The plenary presentations were helpful to understanding the direction of the Hydrogen Program.
4.3	4.3	4 Sub-program overviews were helpful to understanding the research objectives.
		5 The quality, breadth, and depth of the following were sufficient to contribute to a comprehensive review:
4.1	4.2	a Presentations
3.9	4.2	b Question & Answer periods
3.8	3.9	c Answers provided concerning programmatic questions
3.9	4.1	d Answers provided concerning technical questions
4.2	4.4	6 Enough time was allocated for presentations.
4.0	4.2	7 Time allowed for the Question & Answer period following the presentations was adequate for a rigorous exchange
3.8	3.7	8 The questions asked by reviewers were sufficiently rigorous and detailed.
		9 There were no problems with:
4.5	4.4	1 Groupings of projects by technical area
4.3	4.4	2 Proprietary data (should not be any at this Review)
3.9	3.9	3 Quantity/level of the information presented
4.5	4.7	10 The review was conducted in an organized fashion.
		11 The frequency (once per year) of this formal review process for this Program is:
59	73	about right
0.0	3	too frequent
1.0	0	not frequent enough
0.0	0	don't know the frequency of reviews
4.6	4.5	12 Logistics and amenities were satisfactory
4.0	4.3	13 The visual quality of the presentations was adequate. I was able to see all of the presentations I attended.
4.3	4.5	14 The audio quality of the presentations was adequate. I was able to hear all the presentations I attended.
4.3	4.7	15 The hotel accommodations were satisfactory.
4.5	4.4	16 The information about the Review and the hotel accommodations sent to me prior to the Review was adequate
		17 What was the most useful part of the review process ? (Enter below)
4.3	4.4	19 Overall, how satisfied are you with the review process?
		20 Would you recommend this review process to others and should it be applied to other DOE programs?
56	68	Yes
0	3	No
		21 Please provide comments and recommendations on the overall review process (Enter below)

Answers to the question: *What was the most useful part of the review process?*

- Presentations - all, especially those for other Centers of Excellence.
- The presentations. (3)
- Both presentations and breaks were good.
- CD & presentations
- Good quality presentations, fairly uniform format of presentations - having slides on CD.
- The CD
- CD of talks to allow review prior to presentation.
- Review process was well organized. As an attendee, it was a good experience.
- Networking
- Opportunity to network.
- Opportunity to network with other researchers.
- Networking with DOE and researchers.
- Interacting with other researchers.
- Talking/interacting with PIs
- Opportunities to discuss projects, often outside the review itself is often useful in the formation of alliances between projects and parties involved.
- Networking and benchmarking with colleagues and competitors, and gaining awareness of industry/government trends.
- Opportunities to chat with other participants between sessions.
- Meeting people, making contacts.
- Meeting everyone at the same place and time.
- Access to presenters.
- Opportunity to meet DOE program managers.
- Interacting face-to-face discussion with DOE managers.
- Face-to-face
- Meeting and talking to people.
- Talking with various people working on projects of interest.
- Hear what other people are doing in the same field.
- Increased opportunity for collaboration.
- To see the whole program in one place. The opportunity to discuss with others in the program.
- The ability to see a lot of areas within the program all in one short week.
- Getting a big picture of all aspects of fuel cells from H production to market transformation. Great networking opportunity.
- Knowledge of the current status of the research.
- Getting an overview of all the different DOE activities under the hydrogen initiative.
- Good overview for my postdocs. Good opportunity to hear all 3 storage centers.
- Program overviews and project presentations.
- Overview.
- Overviews.
- I got an overview of the DOE H2 program.
- Getting an overview of the projects.
- Good overview.
- Plenary session overview was very helpful.
- Plenary session. It's helpful to understand overall results in this year.
- Plenary talks.
- Plenary.
- Technical session, Plenary.
- Information exchange & quality of presentations.
- So many presenters & project reviews!!! Great!!!
- Presentations and posters.
- Poster session - like interaction with researchers 1 to 1.
- Nice breaks - good to get a chance to talk and mingle.

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- Thank you for keeping on schedule.
- Feedback from reviewers.
- Q&A after each presentation revealed the most relevant information.
- The Q&As.
- Entire program was useful.
- A chance to see a large diverse program.
- Assessing the importance of current research in meeting program goals (i.e. which accomplishments are particularly important and why).
- Good to see a Manufacturing Session on the program.
- Target/Budget objectives are clear and constant.
- Learning about the progress.
- It gives me a breadth of H-program with an update on the progress.
- Excellent facilities!
- The presentations to start and end at the same time made it possible to move from room to room. The arrangement of the talks maximized my attendance to various talks.
- New info gathering.
- The presentations to start and end at the same time made it possible to move from room to room. The arrangement of the talks maximized my attendance to various talks.
- New info gathering.
- Chance to see and talk with others in the fuel cell community.
- Liked later starting time for oral sessions.
- I have been involved in the AMR since the beginning of the Grand Challenge effort. Each year, the organization is better and the presentations have improved - this not only speaks to the good work being done by the individual investigators, but it also is an indication of the great work being done by the DOE organizers and technical program leads.
- DOE is doing a great job of organizing and coordinating the AMR. I hope that the benefits of the review don't get diluted somehow by the proposed expansion to include an entirely new R&D community next year.
- Providing overview of collaborations between program partners.
- Excellent job. This is the best technical program I have attended.
- To see all projects together and in context is very useful.

Answers to the question: *What could have been done better?*

- Plenary session in one morning would be preferred.
- In the name tag, organization font could be larger.
- Standardize font size in presentation.
- Screen presentations in advance to make sure they are legible from the back of the room. Too much information on some slides. It may be excellent work, but if it can't be understood by the audience, it isn't making the impact it could.
- It was hard to look the slides because sometimes I found many busy slides.
- Presenters put up data in small font, the viewgraphs are crowded yet there's a limited amount of information possible to extract.
- Quality of audio and screen (larger). Typically, there is too much material on any given slide which translates into fine print or legends that are not legible from the back of the room. Possible answers: discourage the use of crowded slides or use larger screens??
- I was disappointed that Steve Chalk was a no-show for the plenary session.
- Print out of CD as a book so reviewer can follow the presentation and take notes directly in the book correspondingly.
- EARLIER selection and notification of reviewers. I was not asked to review until three days before the conference!
- Actually, it was a good conference.
- Presentations and Q&A need much more time to be comprehensive.
- Quality of information presented was poor for companies, reasonable for academics.
- Some presenters had slides for much smaller rooms.

- Sub-program overviews were too general.
- More thorough overview presentations showing accomplishments including efficiencies, costs, goals, etc. and comparing various technologies.
- Better problem statement review before presentations - presenters sometimes assumed existing familiarity with work or issues.
- I think the program REVIEW is well run but some "tutorials" on methods should be held to take advantage of experts who are present. These could insure everyone is "on the same page." Major topics could be fuel cell I/V curve, conductivity, H₂ store density, etc.
- Make the session smaller, such as each session individually, instead of four together at one time. So it will be easier to interact with people who are doing similar work.
- Lunch talk (Wednesday)
- Temperature control in technical sessions, especially in Salon V-VI.
- Several presenters seemed to resent tough questions from the reviewers and did not give satisfactory responses. If this is really a review - some egos will have to be bruised and sloppy work must be discussed and corrected. Wednesday's fuel cell session particularly poor in this regard.
- Longer Q&A.
- There are still questions to the relevance of some of the work.
- Keep everyone on time.
- Presenters need to be held to a stricter time limit, especially in the fuel cell talks many presenters went 25 and 28 minutes leaving no time for adequate questions. This shows 1) they have no concept of timing their presentation, and they just take as many slides to cover every piece of data, and 2) there is less time to question their data, since we move on the next speaker to stay on time.
- Some presentations too long - 20 minute slot enough for some
- More rigorous control of speakers - many ran on for 28 minutes with no interruption from moderator - too few questions were then asked (nice trick when your data are less than adequate . . .) 7 minutes for questions is probably the right number.
- For presentations, the screen should be positioned higher. Often I could not see type near the bottom of the screen.
- Screens need to be a few feet higher
- Some presenter's fonts were too small.
- Presenters need to use larger fonts, especially on figures.
- Wider focused discussion with researchers, DOE managers and industry on direction and strategy adjustments.
- Technical planning.
- Release detailed program earlier.
- Education Projects: It would be helpful for reviewers if the presentations include metrics - #s to be reached and #s reached; or produce a certain number of radio spots. It was hard to determine how much progress was made on some of the projects.
- Very crowded, almost claustrophobic in common areas.
- Break hall gets congested.
- Presentations are good but format seems to limit some presenters. Could format be optional to get best and most interesting talks?
- Less expensive accommodations. Conference rate sold out too early.
- Facility too expensive, poor sound.
- The structure of the presentations. It was dictated as if every presentation was done by a company representative. University research is different from company activities. Milestones and go/no-go decisions are not well defined. Research results should be allowed to be presented in standard ways used in Academia.
- I would like to suggest the bigger ballroom for the poster sessions. This year was too crowded and it's hard to hear and walk around in the ballroom.
- The poster session was very crowded and noisy. Two rooms might have alleviated these issues.
- Many talks seemed very focused on discussions administrative/collaborative aspects of the projects at the expense of technical details.

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- Focus presentation efforts more on technical data rather than foundation establishment/communication/collaboration.
- Just right

Comments and Recommendations on the overall review process:

- This is my 4th year attending. It's well organized and I would not recommend making any significant changes - it runs well.
- I would like to see two levels of review - 1. independent experts 2. those in audience. I attended several excellent presentations and a few bad ones. I was not a reviewer but would like to have had the opportunity to note thumbs-up or thumbs-down. The two levels can, of course, be weighted differently.
- Outstanding in presentations and amount of work prepared for this review.
- Reviewers should be notified well in advance - this helps plan out schedule at the review meeting and also familiarize ourselves with the project.
- One of my presenters could not make it to the conference at the last minute - thus the opportunity to ask questions was lost. There should be a request for presenters to have a back-up presenter (who is knowledgeable) in the event they cannot make it.
- I thought there was a lot more honesty being applied to the difficulties in moving to a hydrogen economy rather than "pie in the sky" rosy predictions to meet potential expectations. Let's keep it real and not fool ourselves. If not us, then who?
- Very few probing questions generally. Talks were well presented with (usually) good slides.
- Why do you consistently find the more expensive venues to hold this meeting?
- Getting informal and objective peer reviewers is always a challenge so reviews of detailed, technical projects are meaningful. It is also important to rebut comments of reviewers (by project proponents).
- Outstanding planning and facilitation of the meeting by Rich Bechtold and associates. Facility is top-notch. Food excellent. Other DOE offices should follow this blueprint for successful program reviews.
- Vegetarian lunch options were not all that tasty.
- Need more healthy options at all feeding opportunities.
- Compared to a DOE NETL review I recently attended in Pittsburgh, PA, this review is more informative, educational and much better for networking.
- Great idea to do this type of review. Great info & idea sharing.
- Presentations should be a bit longer (25 min) and Q&A shorter (5 minutes is enough) - because the time allotted for presentations is too tight. In my opinion, the presenters often cram too much in their slides (and it becomes an eye test to read their material) or lots of good work is just not presented.
- It was very difficult for ME to understand presentations outside my area of expertise. I think one slide on background material would be helpful. Also I think the objective should be very specific and the presentation should revolve about the objective. I don't think the milestones slide adds much.
- If you are not familiar with the material, then it is hard to understand most of the presentations.
- Presenters should be very clear about what problem they are addressing. It would be helpful to have more background material at least one slide.
- Please change the guidelines (template) Current template of go/no-go decisions, etc. is very restrictive. It does not allow a research to present his/her research in the best possible way.
- While theory and idealized concepts provide the foundation for the H2 storage progress, applied technologies should be emphasized as the focus of the presentations. Funding should reflect the progress made in the fiscal year otherwise it should be redistributed.
- Have a drop-off box for these forms in the Reviewer's room so we don't have to make 2 stops.
- Very nice opportunities to grasp advance of development.
- Some reviewers did not seem impartial in there reviews/questions.
- Food/accommodation/organization were excellent.
- The plenary should be more dynamic, and you should get someone outside of DOE to give a talk. That would generate more interest, especially if you continue to have the plenary on a "non-review" day.
- I saw a trend in several program areas where researchers are doing things that either have been done by others previously and/or were doing non-relevant research (i.e. whatever they want to do -- they do). I suggest that DOE take a hard look at some of these and complete those activities. The DOE does not have enough funding to allow "white collar welfare."

- Excellent.
- It does not make sense to fund university-led R&D (except in Basic Energy Sciences) for fuel cells of H2 storage when they have no production intent or knowledge.
- Manufacturing Session should be expanded - else the industry will remain in R&D only!
- Very well run meeting.
- Many presenters skipped the slides required by DOE and went straight to technical issues. Rather than have Ned and Carole get up on stage and stand awkwardly next to presenter to let them know time is up, provide a clock or time check of some kind.
- Provide 1-2 drink tickets for poster sessions . . . \$7 for a beer is ridiculous.
- Don't schedule talks during lunch, nobody listens and it's very rude to the speakers.
- Separate reviews for storage, fuel cells, etc. would make the meeting size more manageable and would significantly shorten the meeting and allow for a more detailed technical discussion.
- This meeting is very helpful for me. But, this year most of the results were disappointing. I hope they will be better next year.
- I feel that the review is fair and equitable. It provides everyone (including the presenters) with a focused opportunity to evaluate the overall program, identify areas where increased emphasis is needed, and note areas for diminished work or mid-course corrections. An important side benefit is the opportunity the "network" across all elements of the program.
- It's ok as it is.

2007 2008

		Questions for Peer Reviewers ONLY	
3.6	3.5	22	Information about the program/project(s) under review was provided sufficiently prior to the review session.
4.0	4.2	23	Review instructions were provided in a timely manner.
3.4	3.8	24	The information provided in the presentations was adequate for a meaningful review of the projects.
		25	The evaluation criteria upon which the review was organized were clearly defined and used appropriately.
4.2	4.2	1	Relevance
4.2	4.3	2	Approach
4.2	4.4	3	Technical Accomplishments and Progress
3.5	4.2	4	Technology Transfer/Collaboration
3.5	4.3	5	Proposed Future Research
		26	Explanation of the questions within the criteria was clear and sufficient.
4.0	4.5	1	Relevance
4.2	4.5	2	Approach
4.2	4.5	3	Technical Accomplishments and Progress
3.8	4.5	4	Technology Transfer/Collaboration
4.0	4.4	5	Proposed Future Research
		27	The right criteria and weightings were used to evaluate the project(s)/program.
3.9	4.2	1	Relevance
4.3	4.3	2	Approach
4.1	4.4	3	Technical Accomplishments and Progress
4.2	4.3	4	Technology Transfer/Collaboration
3.9	4.2	5	Proposed Future Research
3.9	4.4	28	During the review, reviewers had adequate access to the Principal Investigators.
4.4	4.7	29	Information on the location and timing of the projects was adequate and easy to find.
		30	The number of projects I was expected to review was
1.9	3	a	Too Many
2.3	3	b	Too Few
4.0	5	c	About right
3.8	4.3	31	The reviewers in your session had the proper mix and depth of credentials for the purpose of the review.
7.0	13		**Don't know their Credentials
3.7	4.0	32	Altogether, the preparatory materials, presentations, and the Question & Answer period provided sufficient dep Enter additional comments below.

APPENDIX C: FEEDBACK AND RECOMMENDATIONS

Additional Peer Reviewer Comments:

- Since a lot of projects will end in 2009 or 2010 it could be of interest to ask the reviewers which topics they would focus on in a next DOE-funding phase.
- Ten reviews was too many for me. Each review takes a lot of time. Doing 10 of them was a bit overwhelming.
- Review of posters was more difficult than review of oral presentations. I think that we need to find a way to streamline the poster review process (e.g. have special time for reviewers to meet one-on-one with presenters??).
- As a reviewer, I would find it useful if each presenter would include a one-page (bulletized) summary that is a concise statement of their response to the reviewer criteria: Relevance, Approach, Accompl., etc. Some presenters do that, and I find it very helpful.
- It is not clear how reviews are assigned.
- Getting the information about the projects under review a week earlier would have been better.
- There has been steady progress and improvements over the several years.
- The presenters could be clearer/be required to focus more on metrics.
- Information on the location and timing of the projects was not easy to read.
- Too many meaningless required slides and not enough time for technical details.
- Recommend sending reviewer assignments earlier (minimum 2 weeks in advance to adjust for conflicts within 1 week).
- Production and Delivery sessions need more (and expert) reviewers.
- The "relevance" should be automatic - if DOE funded, that is relevant (by definition).
- Relevance - should be a yes or no question with no weighting.
- Future work was always just plodding along. Maybe the "future" should be moved ahead to cover the next funding cycle - sort of a proposal of what PIs would like to do. Grading or collaborative was also arbitrary because there was no way to judge the value (to DOE) with these interactions.
- The presentations alone are not adequate for a peer reviewer. The peer reviewer should receive more detailed project reports in order to understand progress and prepare questions. Also: Presentations were old and some PIs had made significant progress. Try to close the time gap between collecting all the materials and the actual presentation.

2007	2008	Questions for Presenters ONLY
4.7	4.7	33 The request to provide a presentation for the review was provided sufficiently prior to the deadline for submission.
4.8	4.7	34 Instructions for preparing the presentation were sufficient.
4.8	4.3	35 The template for the presentation was helpful.
4.8	4.3	36 The PDF format provided adequate functionality for my presentation.
4.9	4.0	37 The time limit for my presentation was adequate to present the information needed by reviewers.
4.8	4.4	38 The audio and visual equipment worked properly and were adequate.
		39 The evaluation criteria upon which the review was organized were clearly defined and used appropriately
4.5	4.6	1 Relevance
4.5	4.7	2 Approach
4.6	4.6	3 Technical Accomplishments and Progress
4.5	4.4	4 Technology Transfer/Collaboration
4.6	4.8	5 Proposed Future Research
		40 Explanation of the questions within the criteria was clear and sufficient.
4.5	4.5	1 Relevance
4.5	4.5	2 Approach
4.7	4.5	3 Technical Accomplishments and Progress
4.5	4.5	4 Technology Transfer/Collaboration
4.6	4.5	5 Proposed Future Research
		41 The right criteria and weightings were used to evaluate the project(s)/program.
4.6	4.5	1 Relevance
4.6	4.5	2 Approach
4.6	4.6	3 Technical Accomplishments and Progress
4.7	4.6	4 Technology Transfer/Collaboration
4.5	4.5	5 Proposed Future Research
4.2	4.2	42 During the review, presenters had adequate interaction with the reviewers.
4.4	4.0	43 Altogether, the preparatory materials, presentations, and the Question & Answer period provided sufficient depth. Enter additional comments below.

Additional Presenter Comments:

- I had much more to present that had to be omitted. Time constraints needed because of the number of presentations did not provide me with an adequate time limit to present the information needed by reviewers.
- In terms of a/v equipment, we need a better pointer.
- Review materials, presentations, and Q&A were good where technical points presented. Some people were very vague.
- As a progress review I thought the program was very well run.
- I think tutorial on important topics could expedite the rate and reliability of progress in technology development and discovery.
- Poster sessions are too long. They should not be more than 2 hours. It's very tiring to keep on standing and talking for 3 - 3.5 hours at a stretch. Other option is to split it over 2 days: 60 - 90 minutes each day.
- Could you have a stool or chair next to each poster board during the poster session so that poster presenters have somewhere to sit?
- Some projects are just at the beginning stage, some of them are final. It may not be fair to use the same standard to judge these two together. Some professors have been doing similar work for 10 years, the lab is well established, but some labs are new, so it is not apple to apple to compare these two. Otherwise, the new groups will never get the chance to get funding.
- The poster session was crowded, noisy too; it was difficult to hear/carry on a detailed discussion.
- To find deadline, we had to go through 2 -3 pages to get to the poster deadline. Please highlight or provide DIRECT link in email.
- I had trouble with the laser pointer.
- Consider beginning the sessions at 8am so the reviews don't drag into Friday!
- This is a great forum to learn, provide feedback, interact and network.

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