
STAGE GATE IMPLEMENTATION IN TPP PROJECTS

“What our TPPs Need to Know”

DOE Solar Program Review

Austin, Texas

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Joe Tillerson

Feel Free to Ask Questions!

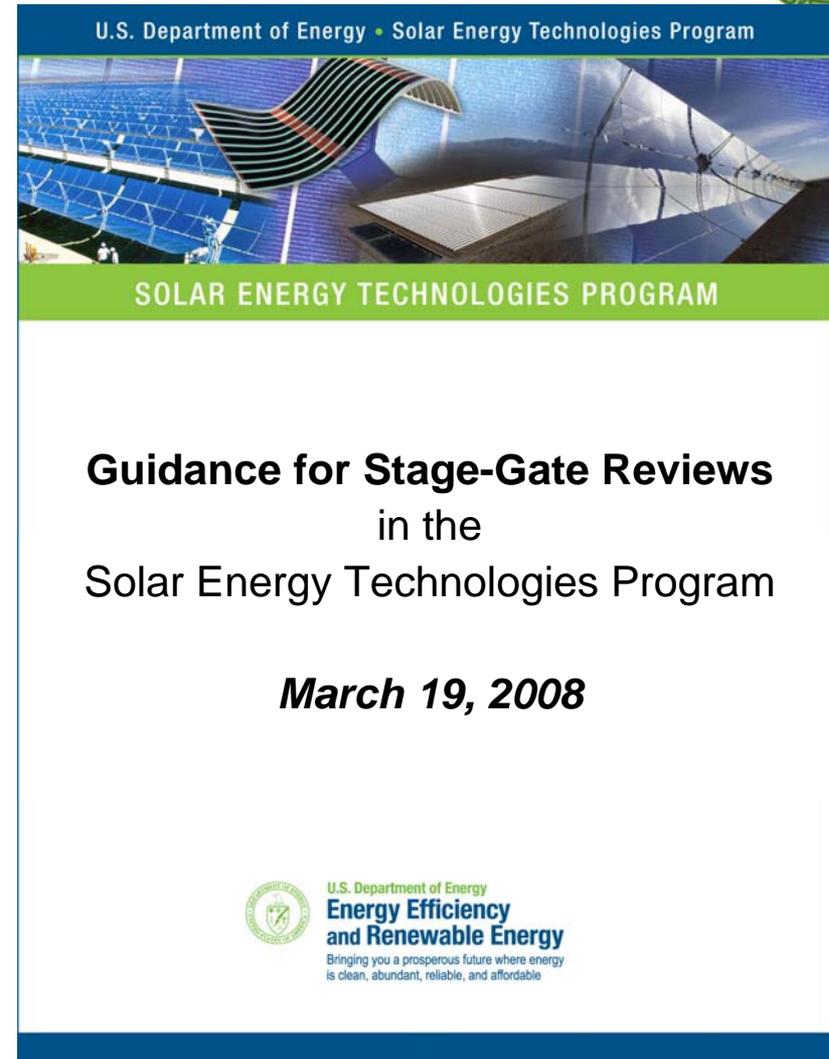


Guidance Document



TPPs must be familiar with this guidance document that contains:

- GATE REVIEW PROCESS
- DOCUMENTATION
 - Documents & their timing
 - Roles & responsibilities
- TIMELINE
- GATE REVIEW MEETING (2-4-2)
- PROPRIETARY INFORMATION
- GATE REVIEWS – less mature R&D activities
- GATE ASSESSMENT SUPPORT
 - Testing
 - Manufacturing & system cost and volume assessments
 - LCOE analyses
 - Baseline
 - Schedule
- APPENDIX & ATTACHMENTS



All parties should thoroughly understand:



Table 1 - STAGE-GATE DOCUMENTS

| # | Document | Description | Due Date ¹ | Responsible Party | Due to Whom |
|--|--|--|-----------------------|--------------------------------------|--|
| Step 1 - PRE-REVIEW MATERIALS - obtain & analyze data | | | | | |
| 1 | Review Plan | The review plan will contain a project summary, the review criteria, a list of the anticipated review materials, logistics (time, location, etc.) of the review, review agenda (draft) and a list of reviewers | R-4 | Gate Keeper ² | All |
| 2 | Test Reports | Test results that quantify performance and reliability improvements are documented and use in LCOE analyses and in assessing system integration | R-3 | Recipients | Recipients, LCOE Analysts, Reviewers |
| 3 | Recipient Pre-Review Materials | Recipient's analysis of progress in addressing LCOE goals. Adequacy of Recipient plan for remaining work and business plan update in reaching LCOE goals will be reviewed and verified | R-3 | Recipients | Recipients, LCOE Analysts & Gate Keeper ² |
| 4 | Financial & Manufacturing Cost Analyses | Recipient's analysis of progress in addressing LCOE goals. Adequacy of Recipient plan for remaining work and business plan update in reaching LCOE goals will be reviewed and verified | R-2 | Cost Team | Recipients, LCOE Analysts & Gate Keeper ² |
| 5 | LCOE Analyses | Recipient's analysis of progress in addressing LCOE goals. Adequacy of Recipient plan for remaining work and business plan update in reaching LCOE goals will be reviewed and verified | R-1 | Analysts | Recipients, LCOE Analysts & Gate Keeper ² |
| Step 2 - REVIEW MATERIALS - prepare & present | | | | | |
| 6 | DOE Project Mgmt Team & Tech Monitor Status Assessment | DOE Project Mgmt Team and Tech Monitor Status Assessment | R-1 | DOE Project Mgmt Team & Tech Monitor | DOE Project Mgmt Team & Tech Monitor |
| 7 | Recipient Review Presentation | Recipient's presentation of project status, future work plan, and business plan. Document comments on evaluation forms and develop review panel recommendations | R | Recipient | Review Panel |
| 8 | Review Panel Recommendations | This memo will document the recommendations of the Review Panel as well as their principal observations & issues and proposed action items | R | Review Panel | Gate Keeper ² |
| Step 3 - POST-REVIEW MATERIALS - decide next steps | | | | | |
| 9 | SG Review Report | This report will document the Review Process and the Principal Observations & Issues, Action Items, and Recommendations resulting from the review and associated programmatic evaluations. | R+2 | Gate Keeper ² | DOE Solar Program Mgr. |
| 10 | Decision Memo | A Decision Memorandum will be prepared and signed for each review. | R+3 | DOE Solar Program Mgr | Gate Keeper ² |
| 11 | SG Review Completion Email | This e-mail will certify that the review package is complete and closed. | R+4 | Gate Keeper ² | DOE Solar Program Mgr. |

Table 2

ROLES & RESPONSIBILITIES IN STAGE-GATE REVIEW

Tables 1 & 2 have most of the info you need

DOE SOLAR PROGRAM MANAGER (GFO) will be the Project Management Team and Gate Keepers for Financial Assistance Awards (such as the Technology Pathway Partnerships) managed through GFO. Lab staff will perform these roles for contracts managed through the national laboratories.

- Facilitate Review Meeting
- Prepare & Submit Gate Review Report
- Distribute Gate Review Memorandum

GATE KEEPER (GFO) will be the Project Management Team and Gate Keepers for Financial Assistance Awards (such as the Technology Pathway Partnerships) managed through GFO. Lab staff will perform these roles for contracts managed through the national laboratories.

- Support Gate Review Planning and Submit Pre-Review Materials
- Present to Review Panel the technical and financial information that shows the status of current work, how gate criteria have been met, future plans for the project, and updated business plan
- Address Reviewer Questions at Stage-Gate Review
- Implement Decision and Guidance included in Decision Memorandum

- TECHNICAL MONITOR (NREL, SNL)**
- Support Gate Review Planning - liaison between recipient and program staff as needed
 - Develop and present TM Status Assessment evaluating technical progress and plans
 - Address Reviewer Questions at Stage-Gate Review

- SETP TECHNICAL SUPPORT (NREL, SNL, Cost Team, others)**
- Plan Recipient Support Activities
 - Conduct and Document Recipient Support Activities
 - Address Reviewer Questions at Stage-Gate Review

- RECIPIENT**
- Support Gate Review Planning and Submit Pre-Review Materials
 - Present to Review Panel the technical and financial information that shows the status of current work, how gate criteria have been met, future plans for the project, and updated business plan
 - Address Reviewer Questions at Stage-Gate Review
 - Implement Decision and Guidance included in Decision Memorandum

^{*} Golden Field Office (GFO) Staff will be the Project Management Team and Gate Keepers for Financial Assistance Awards (such as the Technology Pathway Partnerships) managed through GFO. Lab staff will perform these roles for contracts managed through the national laboratories.

GATE REVIEW PROCESS



Stage Gate Reviews

Step 1. Obtain & Analyze Data

Collect/Generate Data:

- Performance & Reliability
- Certification
- Cost

Perform Analysis:

- Transparent evaluations of progress in meeting criteria
- LCOE evaluations
- Manufacturing cost

Assess Plan to Proceed:

- Criteria for Next Gate
- Clear Pathway to Goals
- Plan for Next Stage

Step 2. Perform Review

Stage Gate Review

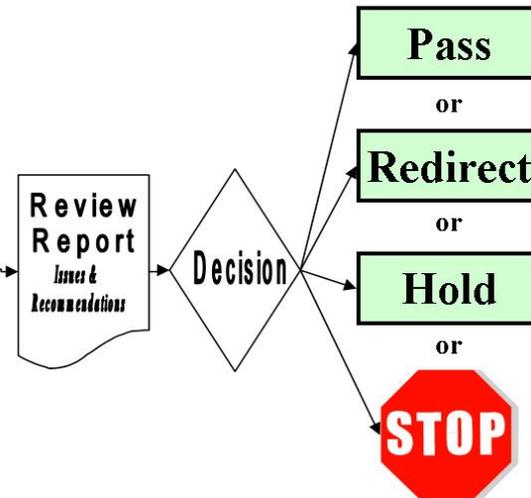
Criteria Evaluation:

- Product Maturity
- Mfg. Process Maturity & Capacity
- Business Plan Maturity

Categories:

- Strategic Fit
- Market/Customer
- Technical Feasibility and Risks
- Competitive Advantage
- Legal/Regulatory Compliance
- Critical Success Factors and Show Stoppers
- Plan to Proceed

Step 3. Decide Next Steps



- Simple, 3-step process
- Accountability
- Critical, valuable input for decision-making

- 4 possible decisions
- Credibility requires consistency & thorough documentation



What materials will be reviewed prior to the meeting?

Pre-Review Materials

Recipient Pre-Review Materials:

1. Recipient Pre-Review Assessments
2. Recipient Plan for Remaining Work
3. Recipient Business Plan Update

T&E Independent Assessments:

1. Test Reports
2. Manufacturing & System Cost and Volume Reports
3. LCOE Analyses

Project Mgmt Team & Tech Monitor Status Assessment

Recipient Stage-Gate Review Presentation

Reviewers will read and assess:

- All three “Recipient Pre-Review Materials” packets
- All three “T&E Independent Assessments”

Figure 2 Gate Review Materials

What is a “RECIPIENT”?



RECIPIENT:

- A partnership, team, company, or university that receives funding from one of the major Solar America Initiative solicitations subject to Stage-Gate reviews (e.g. Technology Pathway Partnerships, PV Module Incubators, SEGIS, etc.)

In a Stage-Gate Review setting, RECIPIENT = REVIEWEE

What's required to be in the "RECIPIENT PRE-REVIEW MATERIALS"?



● Recipient Pre-Review Assessments

- documents provided by the recipient that will reflect the status of their project; assessments should address all gate criteria, should document progress towards overall program goals (i.e., KPP's) and clearly describe progress compared to their plan including goals, deliverables, and milestones. Changes from the project's baseline, including market conditions, should be identified and justified. In addition, the status of all tasks, milestones, and deliverables must be provided. An updated Levelized Cost of Energy analysis (including Solar Advisor Model input data) should be included as part of the pre-review materials. (p.6)

● Recipient Plan for Remaining Work

- will include explicit criteria for the next stage of work (and how they contribute to meeting the project goals), task plans for the remaining activities, milestones and deliverables schedule, and proposed budget. (p. 6)

● Recipient Business (i.e. Commercialization)* Plan Update

- reflects the changes in market conditions, target markets, plans for product introduction/marketing, and other items that impact the potential success of the product under development, especially as related to overall program goals (KPP's). (pp. 6-7)

*Throughout the Stage-Gate Guidance Document, the phrase "Commercialization Plan" should be used in place of "Business Plan"

What else should I know about these “RECIPIENT PRE-REVIEW MATERIALS”?



When are these materials due?

- 3 weeks prior to the review

To whom?

- Gate Keeper (meeting chairperson), generally a DOE/GFO project officer

What format?

- For best communication, it's recommended that you use the “Slide Package Template for Stage-Gate Presentations” required for your “RECIPIENT REVIEW PRESENTATION”. Reviewers will appreciate the consistency. Feel free to attach supporting materials

Who reads them?

- Reviewers, your Technical Monitor, and authorized DOE staff; selected portions will be made available so the Cost Team and LCOE Analysis Team can do their work

What about PROPRIETARY MATERIAL?



Proprietary Materials (if any):

- Must be clearly marked
- Should be limited to the minimum amount necessary to fully explain the status and plans for your project
- Will be appropriately protected by the DOE

Do not mark the entire package as “**PROPRIETARY**” or “**CONFIDENTIAL**”

Alert your Gate Keeper that Proprietary Materials will be in your submittal so he/she can assure that appropriate non-disclosure agreements and information protection controls are in place

What's in the T&E Independent Assessments?

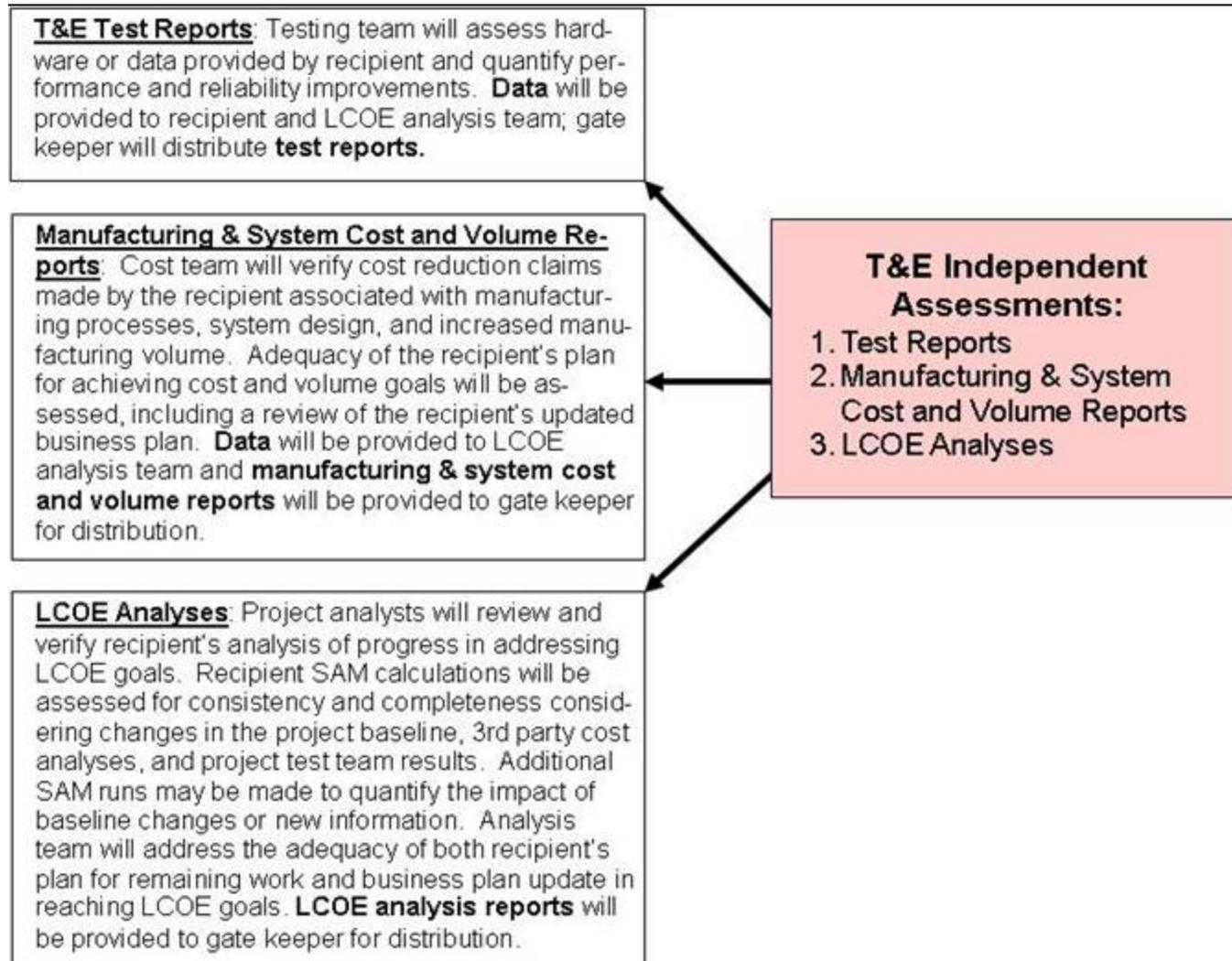
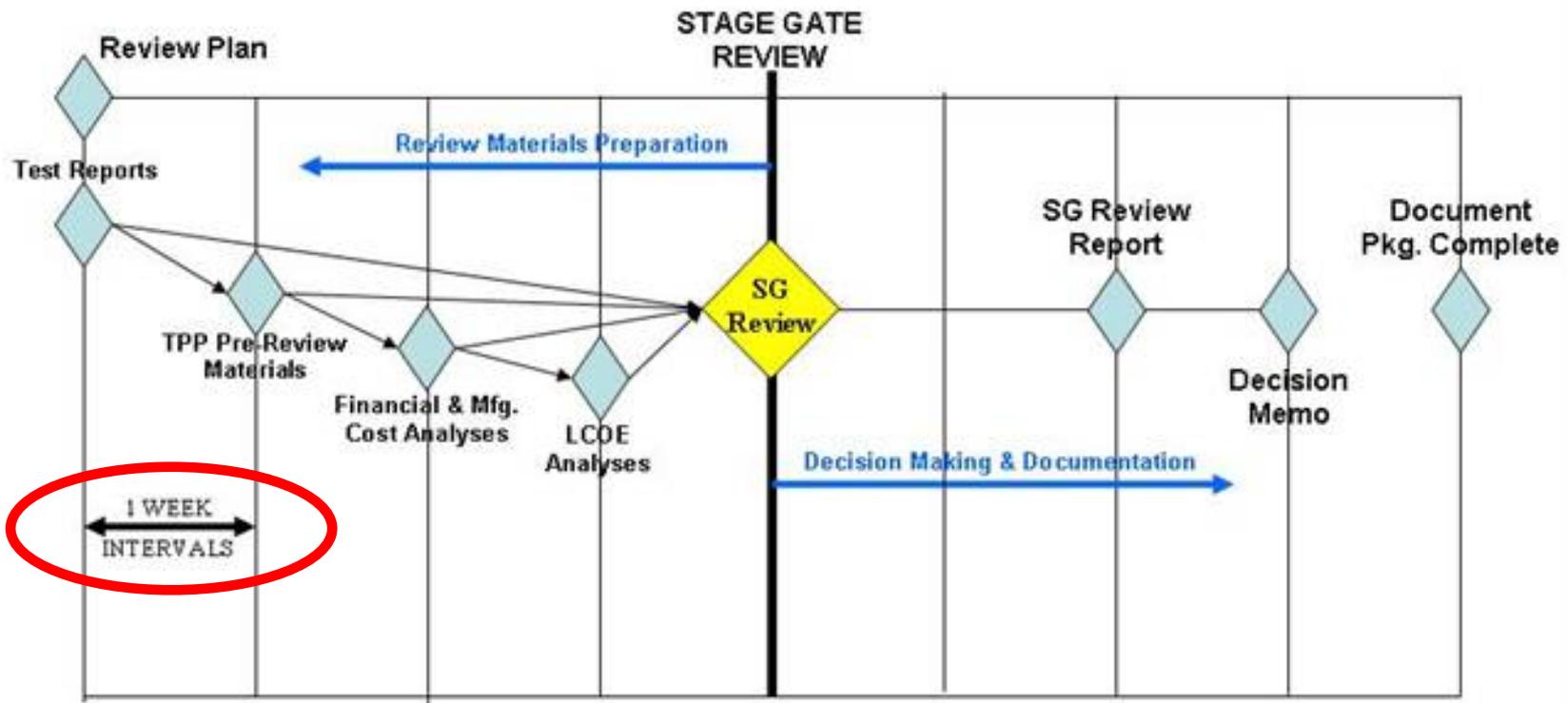


Figure 3 T&E Independent Assessments

When will the various documents be available?



The preferred timeline (w/o guarantees) for SG documents is:



Note: interchanges between testers, analysts, TMs, and the associated recipient are encouraged during the testing and analysis periods to assure accuracy and completeness of the information in the reports that are reviewed.



What presentations will be made during the review meeting?

Pre-Review Materials

- Recipient Pre-Review Materials:
1. Recipient Pre-Review Assessments
 2. Recipient Plan for Remaining Work
 3. Recipient Business Plan Update

- T&E Independent Assessments:
1. Test Reports
 2. Manufacturing & System Cost and Volume Reports
 3. LCOE Analyses

Project Mgmt Team & Tech Monitor Status Assessment

Recipient Stage-Gate Review Presentation

3 presentations will be made to the reviewers:

- Project Management Team Status Assessment
- Technical Monitor Status Assessment
- Recipient (TPP) Presentation

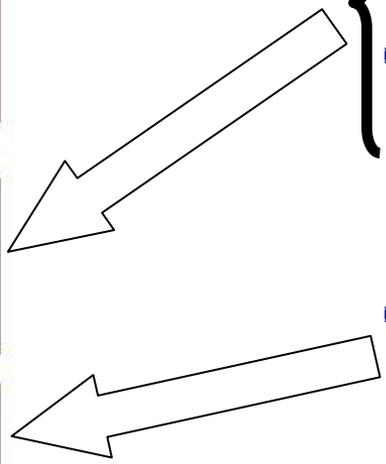


Figure 2 Gate Review Materials

What is the Gate Review Meeting format?



2 - 4 - 2 format

- **2** – first 2 hours – DOE Project Mgmt Team and Project Technical Monitor will provide their status assessments to the review panel and answer their questions (RECIPIENT will not attend this part of the review)
- **4** – next 4 hours – RECIPIENT will make presentation to review panel and answer their questions
- **2** – final 2 hours – Review panel will discuss information they have been given, obtain needed clarification, and document their recommendations, principal observations/issues, and action items.

What is expected in my “RECIPIENT REVIEW PRESENTATION”?



- RECIPIENT will present:
 - technical and financial information that shows the status of current work
 - how gate criteria have been met,
 - future plans for the project
 - the case for continued funding of the project
- Minimum content and format is in Attachment B of the Stage–Gate Review Guidance document
- Allow sufficient time for addressing review panel questions

Anything else I should do?



before

- Support gate review planning

during

- Honestly and straightforwardly address reviewer questions
- Commit to being available for follow-up questions from the review panel (final 2 hours)

after

- Be ready to implement the guidance that results from the review

How and when will we be notified of the Stage-Gate Review results?



- Your Project Officer will provide you with the results of the review including:
 - the decision
 - information needed to implement the decision
 - this information may include, as appropriate, recommendations, observations & issues, and action items or other information from the review report
- The preferred timeline for completing the decision memorandum and communicating with the TPP is within 3 weeks after the review

What questions do you have?



- Thanks for your attention and interest

Follow-up questions on our Stage-Gate Review process should be addressed to:

- Your Project Officer, or
- Joe Tillerson – on detail to DOE/HQ Solar Program Office

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e-mail: jrtille@sandia.gov