

SunShot Prize

RACE TO 7-DAY SOLAR

DRAFT RULES FOR PUBLIC COMMENTS

IMPORTANT DATES

- Draft Rules Announcement Wednesday, October 22, 2014
- Public Comments Due Date Friday, November 28, 2014

(COMPETITION DRAFT TIMELINE)

<i>Release of Official Rules</i>	<i>Friday, January 23, 2015</i>
<i>Letter of Intent Due (optional)</i>	<i>Monday, March 22, 2015</i>
<i>Initial Registration Due (optional)</i>	<i>Monday, May 24, 2015</i>
<i>Entrance Application Due</i>	<i>Wednesday, July 22, 2015</i>
<i>Announcement of Teams & Change Prize Candidates</i>	<i>Tuesday, September 22, 2015</i>
<i>Performance Period Begins</i>	<i>Tuesday, September 22, 2015</i>
<i>Candidates First Progress Report Due</i>	<i>Tuesday, January 19, 2016</i>
<i>Candidates Second Progress Report Due</i>	<i>Monday, March 20, 2016</i>
<i>Performance Period Ends</i>	<i>Monday, January 15, 2017</i>
<i>Performance Application Due</i>	<i>Monday, January 15, 2017</i>
<i>Announcements of Grand Prizes</i>	<i>Thursday, April 27, 2017</i>

All submissions due no later than 11:59 PM ET

DOE reserves the right to modify any submission period or due date at any time for any reason

QUESTIONS

Official email: sunshot.prize@ee.doe.gov

Official website: eere.energy.gov/solar/sunshot/prize.html

October 22, 2014 – Draft Version 1.0

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INTRODUCTION

The U.S. solar market has already realized 60% of the U.S. Department of Energy's (DOE) SunShot Initiative¹ price targets for 2020. Since SunShot's inception in 2011, the average price per kWh for a utility-scale solar photovoltaic (PV) project has dropped from about \$0.21 to \$0.11 per kilowatt-hour, driven in large part by reductions in hardware prices, a significant step forward. However, despite unprecedented deployment levels in the past few years that resulted in 15 GW of cumulative solar electric capacity, solar system prices remain high because of inefficient business transactions such as financing, permitting, and grid integration. As an example, 64% of the price customers paid for residential solar systems contributed to soft costs². Measured in time and money, these transaction costs³ (soft costs) represent the greatest barrier for rapid deployment, economic growth and job creation in solar.

For most Americans the going solar experience is a long and arduous transaction due to inefficient processes and complex administrative obstacles. Customers could wait as long as 180 days for permitting, installation, inspection, and grid interconnection before they can flip the switch and generate electricity from a small residential solar system. Every one day cut from this inefficient process would translate to \$2 million of electricity generation at the 2013 deployment levels.⁴ The SunShot Prize competition specifically targets reducing those soft costs to unlock the tremendous potential of solar in a thriving new U.S. energy economy.

1. THE GOAL

The \$10 million *SunShot Prize: Race to 7-Day Solar* challenges the ingenuity of America's communities and businesses to make installing solar energy systems in the U.S. faster, easier, and cheaper. The goal is to reduce by 75% the time to permit, install, inspect and grid interconnect solar PV systems while increasing process certainty and enriching the going solar experience. Contestants will work towards improving this permit-to-plug-in time from current durations – often as long as six months – to a swift seven days (small systems) or seven weeks (large systems). DOE designed this competition to create opportunities and motivate communities, local jurisdictions, solar installers and utility companies to collaborate towards one goal of improving the going solar customer experience.

DOE will run two contests in this competition for 18 months, one is targeted at small solar systems (1 - 100 kW) and another targeted at large solar systems (101-1,000 kW), thereafter known as the "Small System Contest" and the "Large System Contest" respectively. DOE will

¹ Launched in 2011, SunShot is a collaborative national effort that seeks to make unsubsidized solar energy cost-competitive with other forms of electricity by the end of the decade, by supporting the efforts of communities private companies, national labs, non-profits, academia, and local governments.

² <http://energy.gov/eere/articles/help-solve-solar-s-big-challenge>

³ In economics, transaction costs are often divided into three broad categories: (i) Search and information costs (e.g. finding prices/products), (ii) Bargaining costs (e.g. acceptable contracts), and (iii) Policing and enforcement costs (e.g. permits).

⁴ Calculations based on 5GW deployed in 2013, assuming 4 hours of electricity generation a day at \$0.10 per kWh.

award prizes based on several metrics that measure process certainty and the reduction of permit-to-plug-in time, hereinafter “Total Time.”⁵ These metrics evaluate how many systems are installed in set periods of time (Repeatability). They also assess the average time and variability (Time Performance) of installing systems. Finally, a bonus metric evaluates how successful contestants are in applying their solutions widely across the U.S. (Replicability). See [Section 6. Evaluation Criteria & Judging](#) for more details.

DOE envisions solar developers, local jurisdictions, communities, and utility companies forming teams to pursue the goals of this competition. To win, close coordination among communities, cities, installers, customers, and utility companies is critical. No one entity can achieve the goal of improving the going solar customer experience single-handedly. With this prize competition DOE hopes to create the right conditions and opportunities for collaboration among all stakeholders. See Section [5. Contestant Eligibility](#) for more details.

2. THE PRIZES

DOE offers two Grand Prizes, one targeted at small systems (1 - 100 kW), and another targeted at large systems (101 - 1,000 kW). The grand prize for the Small System Contest will be \$4 million dollars. The grand prize for the Large System Contest will also be \$4 million dollars. Another set of prizes will be available for up to 20 entrants who opt-in to seek in-progress rewards while taking steps towards achieving the goals of the Small or Large System Contests. These prizes will be for a total of \$2 million dollars, up to \$100,000 per successful entrant, and known hereinafter as the “Change Prizes.” These prizes are optional and therefore, contestants interested in pursuing Grand Prizes directly and without qualifying for Change Prizes do not have to opt-in to this part of the competition. Contestants are not restricted from winning in both prize categories (Grand and Change Prizes) in one or both the Small and Large System Contests.

The Prize for Small System Contest

The winner of the Small System Prize will receive \$4 million dollars. The winner of the prize will successfully install and connect to the U.S. grid a minimum total of 10 MW of qualifying PV solar energy generation equipment during the performance period of 18 months. For installations to count towards the minimum total of 10 MW they must satisfy the following qualifying requirements:

- A project’s PV system size must be between 1 kW and 100 kW.
- Permitting, installation, inspection, and grid interconnection should have started and ended during the set 18-month performance period.

⁵ Total Time in this competition is defined as the continuous number of days, that it takes to permit, install, inspect, and-grid-interconnect a solar PV system. The full definition can be found in [Section 3. Eligible Deployments](#).

- 85% of the contestant's projects (in terms of capacity measured in MW) that started and ended in the set 18-month performance period should have a project's Total Time of 56 days or less.
- Additional specifications detailed in Section 3. Eligible Deployments.
- No restrictions on mounting, location or business model provided that PV systems are co-located in the same service area of the customers' utility company.

Prize for Large System Contest

The winner of the Large System Prize will receive \$4 million dollars. The winner of the prize will successfully install and connect to the U.S. grid a minimum total of 15 MW of solar during the performance period of 18-months. For installations to count towards the minimum total of 15 MW they must satisfy the following qualifying requirements:

- A project's PV system size must be between 101 kW and 1000 kW.
- Permitting, installation, inspection, and grid interconnection should have started and ended during the set 18-month performance period.
- 85% of the contestant's projects (in terms of capacity measured in MW) that started and ended in the set 18-month performance period should have a project's Total Time of 98 days or less.
- Additional specifications detailed in Section 3. Eligible Deployments.
- No restrictions on mounting, location or business model provided that PV systems are co-located in the same service area of the customers' utility company.

DOE will determine the winner, in both the Small and Large System Contests based on total points accrued by each contestant in a point rubric consisting of two core criteria and one bonus criterion. These criteria measure repeatability, time performance, and replicability. Details are described in Subsection [C. Evaluation of performance application](#) of Section [6. Evaluation Criteria and Judging](#).

Change Prizes

Up to 20 entrants may each win up to \$100,000 in Change Prizes. These prizes are designed to support contestants in their pursuit of winning either the Small System Contest or the Large System Contest. The Change Prizes will reward contestants for taking meaningful steps towards satisfying the qualifying requirements of the Small System Contest or the Large System Contest. DOE will award prizes to this portion of the competition in three tranches according to the following:

- *Seed Round*: \$25,000 will be given to teams that submit applications and receive the top 20 scores according to the criteria of [A. Evaluation of Entrance Application](#) in Section [6. Evaluation Criteria and Judging](#). Detailed requirements for a full application are provided in Section [7. Submission & Eligibility Requirements](#). If a team receives this initial prize, they will be an eligible candidate to receive additional prizes.
- *Round 1 Progress*: \$25,000 will be awarded to prize recipients who successfully reach 10% of the minimum total deployment qualifying requirement (i.e. 1 MW for Small System Contest or 1.5 MW for Large System Contest) within the specified time and meet

the evaluation criteria outlined in Subsection [B. Evaluation of performance progress report](#) of Section [6. Evaluation Criteria and Judging](#).

- *Round 2 Progress:* \$50,000 will be awarded to prize recipients that successfully reach 30% of the minimum total deployment qualifying requirement (i.e. 3 MW for Small System Contest or 4.5 MW for Large System Contest) within the specified time and meet the evaluation criteria outlined in Subsection [B. Evaluation of performance progress report](#) of Section [6. Evaluation Criteria and Judging](#).

Winners of the Change Prizes that receive the full \$100,000 will be designated as Change Champions of the SunShot Prize. Note that one contestant may win a total \$8,100,000 (i.e. \$100,000 Change Prize and \$4,000,000 Grand Prizes for both contests). Finally, contestants that do not win a Change Prize are still eligible to pursue the competition to win a Grand Prize.

In summary, DOE will grant cash awards to winners according to the following table (with time periods relative to the official start of the competition):

Prize Category	Change Prizes	Grand Prizes	
Total Winners	Up to 20 winners	One winner of the Small System Contest	One winner of the Large System Contest
Cash Awards	Up to total \$100,000 each	\$4,000,000	\$4,000,000
Award Distribution	Tranches: \$25,000, \$25,000, \$50,000 in months 8, 12, 14	One award at competition's end	One award at competition's end

DOE reserves the right to suspend, cancel, extend, or curtail the SunShot Prize competition as required or determined appropriate by DOE officials. Nothing within this document or in any documents supporting the SunShot Prize competition shall be construed as obligating DOE or any other Federal agency or instrumentality to any expenditure of appropriated funds, or any obligation or expenditure of funds in excess of or in advance of available appropriations.

3. ELIGIBLE DEPLOYMENTS

The following table describes definitions, terms, and specifications for eligible deployments in this competition. DOE may rely on subject-matter experts and third-party auditors to verify whether a team complied with these specifications. Note that, as a condition of competing, a team has to agree to provide DOE in a timely fashion, upon request, some or all the documents/materials outlined in Appendix D.

DEPLOYMENT REQUIREMENTS AND RELATED TERMS	
Deployment Size	<p>Small System Contest: Minimum 10 megawatts of small-scale (minimum 1 kilowatt and maximum 100 kilowatts individual systems) distribution-grid-connected photovoltaic Eligible Systems.</p> <p>Large System Contest: Minimum 15 megawatts of large-scale (minimum 101 kilowatts and maximum 1 megawatt individual modules) distribution-grid-</p>

	connected photovoltaic Eligible Systems.
Total Time	The total number of continuous calendar days starting with the date of an application to permit or to grid-interconnect, whichever is earlier, and ending with the effective date of grid interconnection or effective date of credit for a PV system/subscription on a customer utility bill for applicable installations (e.g. shared/community solar generation).
Eligible Systems	A completed system is defined as a distribution-grid-connected, rooftop-mounted or ground-mounted, PV installation with a new interconnection and a valid interconnection agreement granted by a local electric utility. Systems eligible to be counted towards the 10 MW (Small System Contest) and the 15 MW (Large System Contest) targets are all systems installed during the Performance Period and completed within the allowed Maximum Total Time Period, in Eligible Location(s), and while meeting Rule 85% (all defined in this table).
Performance Period	Month 08 to Month 26 of this competition, also known as the 18-month performance period.
Eligible Location(s)	In any county or county-equivalents (e.g., cities, parishes, boroughs) within the United States or its Territories.
Maximum Total Time Period	Maximum eligible Total Time duration for Small System Contest is 56 days Maximum eligible Total Time duration for Large System Contest is 98 days
Rule 85%	85% of total capacity in MW of eligible systems population has to be completed in time periods not exceeding the Maximum Total Time Period.
Installation Type	Any grid-interconnected installation type such as on-site or off-site, rooftop or ground-mounted installation.
System customers or off-takers	Any U.S. legally acceptable contracting or ownership structure for PV systems (e.g. on-site host owned, third-party owned systems, shared/community solar, virtually-net-metered systems, utility-owned or operated systems) excluding subscriptions in green power programs run by utilities or any third-party organization. System off-takers and subscribers have to be co-located in the same geographical service area of their utility company. A shared or community solar system requires at least two off-takers or subscribers that have two separate utility bills or accounts.
Permitting and Inspection	Each installation must meet all applicable local, State, and Federal statutes, laws, regulations and ordinances regarding proper installation and inspection procedures (including, but not limited to, building codes, electrical codes, and fire codes).

Interconnection	Each installation must follow utility-specific rules and regulations for connecting to the electric utility distribution system.
Product Safety & Certification	All installed system components shall be certified according to UL1703 or IEC61730 standards or other comparable standards. This includes, but is not limited to, PV modules, panels, mounting systems, AC modules, and charge controllers.
Warranty Periods	All installations must have an output manufacturer(s) warranty of at least 20 years. All installations must have a total system workmanship warranty that covers the installation of solar panels, inverters, racking, patented roof protection systems, roof penetrations, electrical and mechanical parts, and wiring for the duration of at least 10 years. All installations must have at least a one-year installer warranty.
Operations and Maintenance Contracts	Every third-party owned system must be covered under an operations and maintenance agreement for the duration of the off-taker’s agreement.
Insurance	Installations should be covered under construction insurance packages required by local authorities such as general liability insurance, construction liability insurance, auto insurance, marine cargo insurance, and workers compensation.

4. HOW TO ENTER

To compete in the SunShot Prize competition, a contestant needs to:

- Complete the steps shown in the table below.
- Submit the required materials throughout the challenge by using one active account on the “Funding Opportunity Exchange” website for DOE’s Energy Efficiency & Renewable Energy (EERE) office, hereinafter referred to as “EERE Exchange.” To create an account on “EERE Exchange”, go to <https://eere-exchange.energy.gov> and click the “Register” link.
- To submit the required material click on the FOA Number “DE-FOA-000766.” when available.
- Visit <http://eere.energy.gov/solar/sunshot/prize.html> for more information and updates.

Step No.	Action(s)	Start Month	End Month
0	• Submit a letter of intent to compete (optional)	00	02
1	• Submit an initial team registration (optional)	02	04
2	• Submit the official entrance application with an option to opt-in to the \$100,000 Change Prize rewards and process	04	06
3	• Judges evaluate applications of teams that opted-in for the \$100,000 Change Prize and select up to 20 teams	06	08

	<ul style="list-style-type: none"> DOE announces all teams, including up to 20 candidates for the Change Prize and grants these candidate \$25,000 to execute their plans 		
4	<ul style="list-style-type: none"> Performance period begins Execute plan and accumulate points for Grand Prize contests Submit a progress report on deployments (per contest) for Change Prize candidates only. This is optional for all other teams. A candidate's progress report (<i>Round 1 Progress</i>) has to show at least 10% of the required deployment at-scale size (i.e. 1 MW for Small System Contest and 1.5 MW for Large System Contest) to receive \$25,000 to continue 	08	12
5	<ul style="list-style-type: none"> Performance period continues Continue to execute plan and accumulate points Submit a progress report on deployments (per contest) for Change Prize candidates only. This is optional for all other teams. A candidate's progress report (<i>Round 2 Progress</i>) has to show 30% completion of the required minimum deployment target (per contest) to receive \$50,000 to continue DOE announces the winning candidates for the Change Prize that will be designated Change Champions of the SunShot Prize 	12	14
6	<ul style="list-style-type: none"> Continue to execute plan and accumulate points for the Grand Prize for your chosen contest (Small or Large System Contest) Submit performance application for the Grand Prize for your chosen contest 	14	24
7	<ul style="list-style-type: none"> DOE will evaluate and announce the two Grand Prize winners 	26	28

5. CONTESTANT ELIGIBILITY

The SunShot Prize is open only to: (a) citizens or permanent residents of the United States; and (b) private or non-federal public entities, such as townships, corporations or other organizations that are incorporated in and maintain a primary place of business in the United States. DOE employees, employees of sponsoring organizations, and members of their immediate family (spouses, children, siblings, parents), and persons living in the same household as such persons, whether or not related, are not eligible to participate in this competition. Federal entities and Federal employees, acting within the scope of their employment, are also not eligible to participate in any portion of this competition. Submissions can be from an individual or a team (Team). Teams must meet these qualifying requirements:

- A. A team must have a single legal entity representing the entire team. This entity shall be designated the Team Lead. The Team Lead is responsible for providing and meeting all submission and evaluation requirements.⁶ The Team Lead shall be a private or publicly traded company or an institution of higher education, an association, or other nonprofit organization, that maintains a primary place of business in the U.S.; or an individual (whether participating as a single individual or leading a group) who shall be a U.S. citizen. Local governments, State governments, townships, municipalities, authorities, or any other

⁶ Details are described in Section [7. Submission & Eligibility Requirements](#)

organization with substantial interest or control by a local or State authority may also be designated as a Team Lead. The Team Lead must have a valid DUNS number⁷ at the time of the official entrance application. The Team Lead must meet the following criteria:

1. Is validly existing, duly organized, and in good standing in the jurisdiction of its organization
 2. Can receive payments that are legally made from the U.S. in U.S. dollars
 3. Has a bank account into which funds can be legally deposited from the U.S. in U.S. dollars
 4. Has insurance, self-insurance, or other risk management means as required by law and determined by DOE, in its sole discretion, to be adequate to protect against any potential claims, losses, and damages arising from Team's participation in the SunShot Prize.
- B. Any entity that has substantial active involvement on the team's Prize performance must be included as a team member. Examples of entities that may be part of a team include, but are not limited to, solar developers, installers, local and State governments (e.g. counties, cities), electric utilities, code officials, municipal planners, financial institutions, higher education institutions, nonprofit groups, trade associations, and other nonprofit organizations.
- C. Each team member must be either: (1) a legal entity established pursuant to U.S. Federal or State laws, with operations in the U.S. or its Territories or; (2) a foreign legal entity having an officially recognized place of business in the U.S. or its Territories.
- D. In accordance with 15 U.S.C. § 3719(i), the Team Lead shall provide proof of general liability insurance of \$1 million per incident and a \$5 million umbrella policy for claims by a third party for death, bodily injury, or property damage or loss resulting from an activity carried out in connection with the competition, with the Federal Government named as an additional insured under the Team Lead's insurance policy. Additionally, registered participants must agree to indemnify the Federal Government against third party claims for damages arising from or related to competition activities and for damage or loss to Government property resulting from such an activity.
- E. The Team Lead and all team members must agree to assume any and all risks related to the SunShot Prize and waive all claims against the Federal Government and related entities, except in cases of willful misconduct, for any injury, death, damage, or loss of personal property, revenue or profits, whether direct, indirect, or consequential, arising from their participation in the competition, whether the injury, death, damage, or loss arises through negligence or otherwise.
- F. The Team Lead shall submit all required documentation and evidence in English and all accounting figures shall be in U.S. dollars. Submissions may be reviewed, evaluated, and audited by independent third parties, subject to professional standards of confidentiality.
- G. A team shall have a Teaming Agreement (Agreement) signed by an authorized official or representative of each team member that adequately describes the relationship between

⁷ Obtain a Dun & Bradstreet Data Universal Numbering System (DUNS) number (including a plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>.

the team members, the roles and responsibilities of the team members, and the duration of the Agreement. Additionally, the Agreement shall describe dispute and conflict resolution amongst the team members (including disputes related to participation), allocation of prize award amount(s) to team members, confidential or proprietary information between team members, and how and when the Agreement is subject to termination.

- H. The Team Lead acting on behalf of all team members agrees to sign Certificate of Eligibility (See Appendix C for a sample form) to confirm unconditional agreement with all terms and conditions of this competition including all the items included in this section.

6. EVALUATION CRITERIA & JUDGING

A. Evaluation of Entrance Application

All potential contestants, interested in pursuing the Small System Constant or the Large System Contest, are required to submit a full entrance application as describe in Section [7. Submission & Eligibility Requirements](#). Applicants can choose not to opt-in to the \$100,000 Change Prize process of this competition. In this case, their applications will not be evaluated by a DOE selected jury of judges. These teams can start their deployments and accumulate points for pursuing the Grand Prizes directly and without any mandatory progress reporting. Applicants that choose to receive Change Prizes will be subject to the evaluation process described in this subsection.

Teams' official entrance application will be evaluated by a jury of judges to select up to 20 candidates for the Change Prizes. Evaluation is determined by three criteria, each consisting of five questions with equal point values. Each judge will assign points based on her agreement level with an affirmative "Yes" answer to each question in each criterion. The final score is determined as the average total points assigned by at least three judges. The point score per agreement level with an affirmative "Yes" answer for each criterion is described in [Appendix A](#).

The three criteria for evaluating entrance application, with their relative weights, are as follows:

CRITERIA #1: PROCESS INNOVATION & STRATEGY (MAX 300/1000)

- The proposal is highly aligned with the competition goals, deployment eligibility requirements, and time specifications.
- The proposal is innovative, feasible and executable within the prescribed performance period.
- The proposal implements sustainable and enduring innovation that can be applied without pivoting on policy or regulatory changes at state, local or federal level.
- The proposed innovation and strategy are not temporary and will lead to breaking time barriers described in this competition.

- The proposed innovation has a high degree of replicability in a significant number of U.S. solar markets.

**CRITERIA #2: TEAM & EXECUTION PLAN
(MAX 300/1000)**

- Roles and responsibilities of team members reflect a highly organized and well-thought-out process to maximize the project success and achieve the goals of this competition.
- The collective capabilities, experiences, and resources of team members play a unique role in the project’s success.
- The plan demonstrates that the team understands all the activities involved in the project at a highly detailed level.
- The activities are planned and organized efficiently to ensure successful outcomes in line with this competition’s goals.
- The plan includes mechanism and performance indicators to mitigate execution risks and contingencies.

**CRITERIA #3: PLAN FEASIBILITY & SUPPORT
(MAX 400/1000)**

- The plan is economically feasible within the prescribed performance period for the SunShot Prize competition.
- The plan is operationally feasible within the prescribed performance period for the SunShot Prize competition.
- The plan demonstrates a clear understanding of market challenges, technical obstacles, associated costs, risks, and resources needed for successful execution.
- The project has secured dedicated resources and commitments from key stakeholders, partners, and supporters in order to successfully execute the plan within the prescribed performance period.
- The plan uses existing resources and capabilities efficiently to achieve plan goals while mitigating risks.

B. Evaluation of performance progress report

Change Prizes candidate teams will submit deployment progress reports due to DOE as described in Sections [4. How to Enter](#) and [Important Dates](#). To receive the allocated cash tranches (at the 10% and 30% deployment benchmarks) candidates of Change Prizes have to satisfy the following criteria:

**CRITERIA: DEPLOYMENT PROGRESS (Round 1 and Round 2)
(MAX 1000)**

- The Team has fully deployed the required minimum per round: (400 points)
 - *Round 1 Progress:* Minimum 1MW of eligible systems (Small System Contest) or 1.5MW of eligible systems (Large System Contest).

- *Round 2 Progress:* Minimum 3MW of eligible systems (Small System Contest) or 4.5MW of eligible systems (Large System Contest).
- The Team has actively engaged an adequate number of key stakeholders, partners, and supporters to guarantee project success. *(100 points)*
- The Team’s progress confirms that their plan continues to be operationally and economically feasible within the prescribed performance period for the SunShot Prize competition. *(200 points)*
- Executed and planned activities demonstrate that the Team will continue to pursue the goals of the SunShot Prize in the upcoming months. *(200 points)*
- The Team composition, roles and responsibilities continue to reflect a highly coordinated and organized team. *(100 points)*

C. Evaluation of performance application

In determining winners of the Grand Prizes, teams’ performance will be evaluated based on four core metrics scored independently per contest (i.e. Small System and Large System Contest). In addition, there is one bonus criterion to help teams maximize their scores with bonus points. The same criteria will apply per contest, but each contest will be scored independently. For each contest, the team with the highest total points, including bonus points, above 1,875 points at the end of the competition wins that contest. If no teams score above 1,875 points no Grand Prizes will be awarded.

The criteria for performance application, with their relative point scores, are as follows:

CRITERIA #1: REPEATABILITY (MAX 1250/2500)

The repeatability criteria measure a team’s ability to complete PV systems in set time durations repeatedly. Shorter time durations translate to higher points. The closer a system’s Total Time to a 7-day time duration, the higher the points are for the Small System Contest. Similarly, the closer a system’s Total Time to a 7-week time duration, the higher the points are for the Large System Contest. Durations of Total Time that exceed 7-day (Small System Contest) or 7-week (Large System Contest) are set in increments of seven days. Consequently, systems with longer Total Time durations get discounted accordingly. The following table shows the applied discounts factors per time period for both contests:

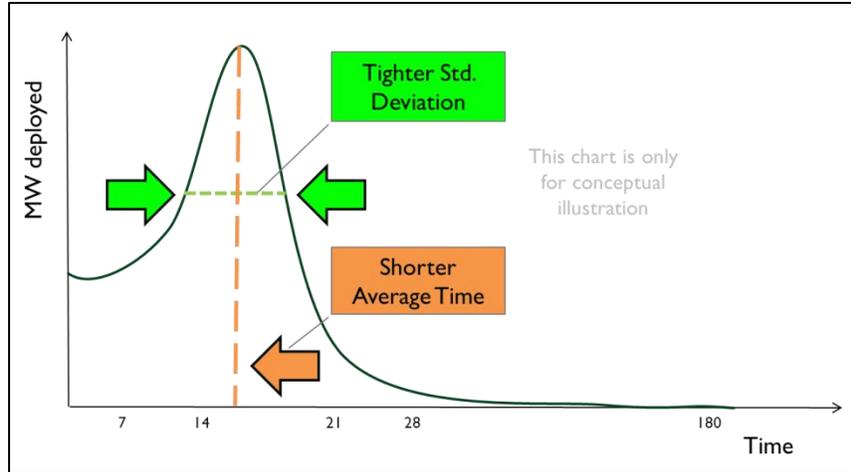
Total Time - Small System Contest								
Periods (in days)	0-7	8-14	15 – 21	22 – 28	29 – 35	36 – 42	43 – 49	50 – 56
Discount Factor	0%	9%	17%	25%	32%	38%	44%	49%
Total Time - Large System Contest								
Periods (in days)	0-49	50 – 56	57 – 63	64 - 70	71 – 77	78 - 84	85 – 91	92 – 98
Discount Factor	0%	9%	17%	25%	32%	38%	44%	49%

A team will earn points according to two metrics whose calculated values are then converted to points according to lookup tables provided in Appendix B.

- **Metric#1 - Time-adjusted capacity (Max 250 points):** To calculate the value of this metric in MW, the generation capacity for all eligible systems with the same Total Time period are added after applying the corresponding discount factors. For example, in the Small System Contest, if a team deployed total 5 MW of systems with Total Time period of 7 days or less and another total 5 MW of systems with Total Time period exceeding 7 days but less than 15 days, then value of this team's Time-adjusted deployments is $5 + (1 - 0.09) 5 = 9.55$ MW.
- **Metric#2 - Normalized Time-adjusted capacity (Max 1000 points):** This metric measures the ratio of the Time-adjusted Capacity to a team's total capacity (all PV systems started and completed during the 18-month performance period). To calculate the value of this metric, divide the time-adjusted capacity (in MW) by the total capacity (in MW). A value closer to 100% means that the majority of systems have Total Time durations close to 7 days (Small System Contest) or 7 weeks (Large System Contest). This metric is different because a team can compensate for the effect of discounting and receive high value for the time-adjusted capacity metric, simply by increasing the number of systems deployed in longer time periods. The normalized time-adjusted capacity metric counter for such strategies because it will discount according to relative portions. For example, in the Small System Contest, if a team deployed total 15 MW of systems with 3 MW in 0-7 day Total Time durations, 5 MW in 8-14 day Total Time durations, and 7 MW in 43-49 Total Time durations, this team's time-adjusted capacity will be $3 + (1 - 0.09) 5 + (1 - 0.44) 7 = 11.50$ MW. However, this team's normalized time-adjusted capacity value is 77%.

CRITERIA #2: TIME PERFORMANCE (MAX 1250/2500)

The time performance criteria measure a team's ability to consistently reduce the Total Time for PV system and increase the certainty of going solar. Denser high portions of systems completed in short time durations translate to higher points. The time performance criteria combine a measurement of Total Time expected value with a measurement of variance. These metrics correspond in general terms to average time and time standard deviation (see figure below for conceptual illustration). The closer a system's Total Time to a 7-day time duration the higher the points are for the Small System Contest. Similarly, the closer a system's Total Time to a 7-week time duration the higher the points are for the Large System Contest. Durations of Total Time that exceed 7-day (Small System Contest) or 7-week (Large System Contest) are set in increments of seven days. A team will earn points according to two metrics whose calculated values are then converted to points according to lookup tables provided in Appendix B.



Metric#3 - Expected Value of Total Time (Max 250 points): For each Total Time period, a value in days is assigned which equals to the longest number of days in this Total Time period. For example, the assigned time value for a Total Time period of 0-7 days is 7 and for a period of 8-14, it is 14 (see table below for all assigned values). To calculate the expected value of Total Time in days, time values are added after weighing each with a ratio of total capacity of systems with the same Total Time period to the team’s total capacity deployed (all PV systems started and completed during the 18-month performance period). For example, in the Small System Contest, a team deployed total 15 MW of systems with 3 MW in 0-7 day Total Time durations, 5 MW in 8-14 day durations, and 7 MW in 43-49 day durations. This team’s Expected Value of Total Time is $7 (3/15) + 14 (5/15) + 49 (7/15) = 28.93$ days. The highest points are granted to the lowest expected value of Total Time. This value is seven days for Small System Contest and 49 days (7 weeks) for Large System Contest.

Total Time - Small System Contest								
Periods (in days)	0-7	8-14	15 – 21	22 – 28	29 – 35	36 – 42	43 – 49	50 – 56
Time Value	7	14	21	28	35	42	49	56
Total Time - Large System Contest								
Periods (in days)	0-49	50 – 56	57 – 63	64 - 70	71 – 77	78 - 84	85 – 91	92 – 98
Time Value	49	56	63	70	77	84	91	98

Metric#4 - Total Time Variability (Max 1000 points): This metric calculates the standard deviation of time values assigned to Total Time periods according to the distribution of deployment ratios (i.e. total capacity of systems with the same Total Time period to the team’s total capacity deployed). The standard deviation is calculated as the square root of variance. To calculate variance, the squared difference between time values and the expected value of Total Time are added after weighing each with a ratio of total capacity of systems with the same Total Time period to the team’s total capacity deployed (all PV systems started and completed

during the 18-month performance period). For example, in the Small System Contest, a team deployed total 15 MW of systems with 3MW in 0-7 day Total Time durations, 5MW in 8-14 day durations, and 7 MW in 43-49 day durations. This team’s Expected Value of Total Time equals 28.83 days. The variance is calculated $(7-28.83)^2 \times (3/15) + (14-28.83)^2 \times (5/15) + (49-28.83)^2 \times (7/15) = 358.47 \text{ day}^2$. The square root of 358.47 is 18.93. The total time variability for this team is therefore 18.93 days. The highest points are granted to the lowest Total Time variability. This value is zero days for Small System Contest and Large System Contest.

**BONUS CRITERION: REPLICABILITY
(MAX 500)**

Replicability measures a team’s ability to apply their innovation for time reduction and increased process certainty across wide geographical areas in the U.S. Because permitting, inspection, and grid interconnection can vary even in one county across different local authorities having jurisdiction (AHJs), these jurisdictions are considered the basic unit for a geographic boundary. A team will earn points according to one metric whose calculated value is then converted to points according to lookup tables provided in Appendix B.

Metric# 5 - Diversity of jurisdictions (Max 500 points): This metric evaluates whether PV system deployments are concentrated in a small number of jurisdictions or widely spread. A jurisdiction share of deployments is calculated as the total capacity of eligible systems deployed in this jurisdiction relative to all systems deployed by the team during the 18-month performance period. These shares, when squared and added, give a value between 0% and 100% that measures geographic concentration. 100% corresponds to having all deployments in one jurisdiction and 0% is equivalent to having deployments in an infinite number of jurisdictions. The diversity of jurisdiction is calculated by subtracting the team’s geographic concentration value from 100%. For example, if a team completed total 10 MW with 2 MW in jurisdiction A, 4 MW in jurisdiction B, and 4 MW in jurisdiction C, then the diversity of jurisdiction value is $1 - [(2/10)^2 + (4/10)^2 + (4/10)^2] = 64\%$.

In summary the following table provides details about the formulae used for calculating evaluation metrics for the Grand Prizes.

Criteria		Metric	Points	Short Description
Core	Repeatability	Time-adjusted capacity	250	Team’s total eligible installed capacity (in MWs) adjusted based on the different Total Time periods. Details: Appendix B – Metric #1
		Normalized time-adjusted capacity	1000	Time-adjusted deployments normalized by team’s total eligible installed capacity. Details: Appendix B– Metric #2
	Time Performance	Total Time expected Value (scale-adjusted)	250	Time is measured as the average of Total Time weighted by total capacity (measured in MWs) installed in set time periods. Details: Appendix B – Metric #3
		Total Time Variability (scale-adjusted)	1000	Variability is measured as a standard deviation of Total Time weighted by total capacity (in MWs) installed in set time periods. Details: Appendix A – Metric #4

Bonus	Replicability	Diversity of jurisdictions	500	Geographic spread of local jurisdictions weighted by eligible installed capacity (in MWs). Details: Appendix B – Metric #5
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D. Judges

Section 105 of Public Law 111-358, the America COMPETES Reauthorization Act of 2010, amended the Stevenson-Wydler Technology Innovation Act of 1980, 15 USC 3701 et seq., by adding a new section 24, which generally authorizes Federal agencies to award prizes competitively to stimulate innovation that has the potential to advance the mission of the respective agency. Among other things, section 24 requires DOE to appoint qualified judges to select the winner of the competition. DOE will establish a qualified panel of experts selected by DOE at its sole discretion. The judging panel will be composed of Federal and non-Federal subject matter experts, including third-party organizations, to review submissions according to the described evaluation criteria. Judges may not (A) have personal or financial interests in, or be an employee, officer, director, or agent of any entity that is a registered participant in a contest; or (B) have a familial or financial relationship with an individual who is a registered participant. The decisions of the judges for the contests will be announced in accordance with the dates noted in the Important Dates section of these rules. Under section 24, the Federal Advisory Committee act shall not apply to the DOE selected judging panel.

7. SUBMISSION & TEAM ELIGIBILITY REQUIREMENTS

Submissions have to meet the following requirements:

- No DOE logo - submission(s) must not use DOE's logo or official seal and must not claim DOE endorsement.
- Each submission must be original, the work of the contestant, and must not infringe, misappropriate or otherwise violate any intellectual property rights, privacy rights, or any other rights of any person or entity.
- It is an express condition of submission and eligibility that each contestant warrants and represents that the contestant's submission is solely owned by the contestant, that the submission is wholly original with the contestant, and that no other party has any ownership rights or ownership interest in the submission.
- Each contestant further represents and warrants to DOE and the other sponsors that the submission, and any use thereof by DOE or the other sponsors (or any of their respective partners, subsidiaries and affiliates), shall not: (i) be defamatory or libelous in any manner toward any person, (ii) constitute or result in any misappropriation or other violation of any person's publicity rights or right of privacy, or (iii) infringe, misappropriate or otherwise violate any intellectual property rights, proprietary rights, privacy rights, moral rights or any other rights of any person or entity.

- A contestant may contract with a third party for technical assistance to create the submission, provided the submission is solely the contestant's work product and the result of the contestant's work and the contestant owns all rights to it.
- Each submission must be in English. All accounting figures shall be in U.S. dollars.
- Electronic files in Microsoft Word (MS) should be saved in a .docx, .doc or .pdf extension, MS Excel Spreadsheet files should be saved in an .xls or .xlsx file extensions, Adobe files should be saved in a .pdf file extension and compressed files should be saved in a .zip file extension.
- Submissions will not be accepted if they contain any matter that, in the sole discretion of DOE, is indecent, obscene, defamatory, libelous, in bad taste, or demonstrates a lack of respect for public morals or conduct.
- If DOE, or the Judges, in their discretion, find any submission to be unacceptable, then such submission shall be deemed disqualified.
- Deadline(s) – A submission must be available by the end date noted in the "Important Dates" section of these rules.
- Submission items - The required submission items are shown in the table below. Failure to provide the required content as specified and before the set deadlines will render the applicant ineligible for any cash prizes in both categories (Change or Grand Prizes) and contests of this competition.

Letter of Intent (Optional)		
Submission Item(s)	Format & Limitation	Required Information/content
Letter of Intent	1-page MS Word file	<ul style="list-style-type: none"> • Project title and the track of interest (e.g. Small System Contest2) • Project abstract not exceeding 100 words in length • A short statement expressing intent to compete • Name and contact information of the candidate Team Lead and key member organizations (telephone number, email address, website) • Links to publically accessible online resumes for top three key personnel or principals
Initial Team Registration		
Team Composition	1-datasheet MS Excel file	<p>The datasheet should include the following information, when applicable, for the designated Team Lead and every participating team, partners, and supporters, provided in a short narrative :</p> <ul style="list-style-type: none"> • Name and contact information (telephone number email address, website) • Top 5 capabilities and resources • Top 5 roles and responsibilities • Installation types of interest

		<ul style="list-style-type: none"> • Areas of key interest for deployments
Project Concept Paper	3-page MS Word file	<ul style="list-style-type: none"> • Project title and the track of interest (e.g. Small System Contest) • A narrative describing how the team intends to meet deployment eligibility and demonstrate sustainable and enduring innovation. • The narrative should include a brief analysis of the technical and economic feasibility of the proposed approach, its impact and replicability.
Work Plan	1-page MS Word file	<ul style="list-style-type: none"> • A high-level work plan describing goals, milestones, activities, deliverables, and timeline.

Entrance application		
Submission Item(s)	Format & Limitation	Required Information/content
Official Team Composition	1-datasheet MS Excel file	<p>The datasheet should include the following information, when applicable, for the designated Team Lead and every participating team, partners, and supporters, provided in a short narrative :</p> <ul style="list-style-type: none"> • Name and contact information (telephone number, email address, website) • Key capabilities and resources • Key roles and responsibilities • Installation types and business models • Jurisdictions of potential deployments • Commitments and resources dedicated to the project
Project technical description	3-page MS word file	<ul style="list-style-type: none"> • Relevance and Outcomes: Detailed description of the proposed process-innovation and implementation strategy. The proposal relevance and alignment with meeting the goals and deployment eligibility of this competition. Clearly specify the expected outcomes of the project. • Feasibility: Demonstrate the technical, operational and economic feasibility of the proposed process-innovation including dedicated resources and capability needed for realizing the anticipated performance targets. • Enduring Impact: Describe the current state of the art in the applicable field, the advantages of proposed process-innovation, its replicability, and the overall impacts.
Work plan	7-page MS word file	<ul style="list-style-type: none"> • The work plan should contain a concise detailed description of the activities to be conducted over the performance period. Appropriate milestones should be incorporated into the task and subtask structure. Each task and subtask should have a technical details section, as appropriate, to discuss how the work will be done, anticipated problems or uncertainties, and any further clarification, such as why a specific approach is being taken. (See sample in

		<p>Appendix C)</p> <ul style="list-style-type: none"> • Milestones: Provide appropriate SMART⁸ milestones throughout the project to demonstrate success, where success is defined as a verifiable well-defined technical achievement. Show the means by which the milestone will be verified. • Schedule & Deliverables: Provide a detailed schedule for the entire project, including task and subtask durations, milestones, deliverables and key decision points. • Project Management: Provide a proposed management plan with details that cover: <ul style="list-style-type: none"> • Team organization and members' roles and responsibilities. • Interdependencies among team members and among key partners or stakeholders • The technical and management aspects (e.g. processes, systems and practices) • Change management, risk management and mitigation • Communication and coordination management
Budget Summary	1-page MS word file	<ul style="list-style-type: none"> • A summary budget sheet showing a high level description of cost categories and estimated costs for a successful project execution. This information will only be used to evaluate the proposal's merits.
Certification of Contestant Eligibility	1-page PDF file	<ul style="list-style-type: none"> • A statement confirming the Team Lead and its members unconditionally agree to all the terms and conditions of this competition.
Project Summary for Public Release	1-page MS word file	<ul style="list-style-type: none"> • A short description of the project, goals, team members, partners, and key stakeholders to share with the public. Top five key personnel or principals may provide links to their publically accessible online resumes.

In-Progress Report Submission(s)		
Submission Item(s)	Format & Limitation	Required Information/content
Deployment Work Sheet	1-datasheet MS Excel file	<ul style="list-style-type: none"> • The datasheet showing the details of completed eligible deployments. The datasheet should also include planned installations and expected Total Time periods and completion dates. The information provided should be sufficient to enable validation of permits issued by a local Authority Having Jurisdiction (AHJ) and interconnection agreements/bill credits granted by a local utility company. See Appendix C for a sample.
Progress Report	3-page MS word file	<ul style="list-style-type: none"> • A summarized narrative status update of project execution and plan to include completed and planned tasks, milestones, activities, and deliverables. Provide a section to discuss team organization, management plan and project risks.

⁸ Specific, Measurable, Achievable, Relevant, and Timely (SMART)

Performance Application		
Submission Item(s)	Format & Limitation	Required Information/content
Complete Deployment Work Sheet	2-datasheet MS Excel file	The first datasheet should show the applicant team's point scores as determined by the scoring criteria described in Section 6. Evaluation Criteria & Judging. The second datasheet should show details of all completed eligible deployments. The information provided should be sufficient enough to allow for an independent validation or authentication by DOE or by a third-party auditor at DOE' discretion.(permits issued by a local Authority Having Jurisdiction (AHJ) and interconnection agreements/bill credits granted by a local utility company can be crossed referenced and verified from existing public records). See Appendix C for a sample.
Supporting Documents	1-zipped file	The file should be organized in a number of folders providing a sample of the records/documents listed in Appendix D.
Final Summary Report	1-page	An executive summary describing the project's success, challenges, and market impact.
Affidavit of Authenticity	1-page PDF file	A publically notarized affidavit signed by the Team Lead confirming that all submitted records and information are true and accurate

ADDITIONAL TERMS & CONDITIONS

COMPETITION SUBJECT TO APPLICABLE LAW

All contests in this prize competition are subject to all applicable federal laws and regulations. Participation constitutes each Participant's full and unconditional agreement to these Official Rules and administrative decisions, which are final and binding in all matters related to the contest. Eligibility for a prize award is contingent upon fulfilling all requirements set forth herein. This notice is not an obligation of funds; the final award of prizes is contingent upon the availability of appropriations.

RESOLUTION OF DISPUTES

The Department of Energy is solely responsible for administrative decisions, which are final and binding in all matters related to this prize competition. .

In the event of a dispute as to any registration, the authorized account holder of the email address used to register with EERE Exchange will be deemed to be the contestant's Team Lead. The "authorized account holder" is the natural person or legal entity assigned an email address by an Internet access provider, online service provider or other organization responsible for assigning email addresses for the domain associated with the submitted address.

PUBLICITY

The winners of these prizes (collectively, "Winners") will be featured on the DOE website. Except where prohibited, participation in the competition constitutes each winner's consent to DOE's and its agents' use of each winner's name, likeness, photograph, voice, opinions, and/or hometown and state information for promotional purposes through any form of media, worldwide, without further permission, payment or consideration.

LIABILITY AND INSURANCE

Any and all information provided by or obtained from the Federal Government is without any warranty or representation whatsoever, including but not limited to its suitability for any particular purpose. Upon registration, all participants agree to assume and, thereby, have assumed any and all risks of injury or loss in connection with or in any way arising from participation in this competition, development of any application or the use of any application by the participants or any third-party. Upon registration, except in the case of willful misconduct, all participants agree to and, thereby, do waive and release any and all claims or causes of action against the Federal Government and its officers, employees and agents for any and all injury and damage of any nature whatsoever (whether existing or thereafter arising, whether direct, indirect, or consequential and whether foreseeable or not), arising from their participation in this competition, whether the claim or cause of action arises under contract or tort. Upon registration, all participants agree to and, thereby, shall indemnify and hold harmless the Federal Government and its officers, employees and agents for any and all injury and damage of any nature whatsoever (whether existing or thereafter arising, whether direct, indirect, or consequential and whether foreseeable or not), including but not limited to any damage that may result from a virus, malware, etc., to Government computer systems or data, or to the systems or data of end-users of the software and/or application(s) which results, in whole or in part, from the fault, negligence, or wrongful act or omission of the participants or participants' officers, employees or agents.

STANDARD DISCLAIMER

The following disclaimer is mandatory for applications deployed on non-DOE information systems. This standard disclaimer shall be incorporated into the software in such a way that individuals must read and accept its conditions before initial use (NOTE: The standard disclaimer must appear in all capital letters):

THE MATERIAL EMBODIED IN THIS SOFTWARE IS PROVIDED TO YOU "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED, OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL THE UNITED STATES DEPARTMENT OF ENERGY OR THE UNITED STATES GOVERNMENT BE LIABLE TO YOU OR ANYONE ELSE FOR ANY DIRECT, SPECIAL, INCIDENTAL, INDIRECT, OR

CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER, INCLUDING WITHOUT LIMITATION, LOSS OF PROFIT, LOSS OF USE, SAVINGS OR REVENUE, OR THE CLAIMS OF THIRD PARTIES, WHETHER OR NOT DOE OR THE U.S. GOVERNMENT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSS, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE POSSESSION, USE, OR PERFORMANCE OF THIS SOFTWARE.

RECORDS RETENTION AND FOIA

All materials submitted to DOE as part of a submission become DOE records and cannot be returned. Any confidential commercial information contained in a submission should be designated at the time of submission. Submitters will be notified of any Freedom of Information Act requests for their submissions in accordance with 29 C.F.R. § 70.26.

PRIVACY

If you choose to provide DOE with personal information by registering or filling out the submission form through the competition website, that information is used to respond to you in matters regarding your submission and/or the competition only - unless you choose to receive updates or notifications about other contests from DOE on an opt-in basis. Information is not collected for commercial marketing.

GENERAL CONDITIONS

DOE reserves the right to cancel, suspend, and/or modify this prize competition, or any part of it, if any fraud, technical failures, or any other factor beyond DOE's reasonable control impairs the integrity or proper functioning of this prize competition, as determined by DOE in its sole discretion. DOE is not responsible for, nor is it required to count, incomplete, late, misdirected, damaged, unlawful, or illicit votes, including those secured through payment or achieved through automated means.

ALL DECISIONS BY DOE ARE FINAL AND BINDING IN ALL MATTERS RELATED TO THIS PRIZE COMPETITION

APPENDIX A

SCORING CRITERIA FOR ENTRANCE APPLICATION

Applicants that opted-in to receive Change Prizes Only

Each entrance application, whose applicant opts-in for receiving Change Prizes, will be evaluated and scored by a panel of at least three judges. Using the information submitted only, each judge will evaluate an application by independently answering each question in each criterion. The answer to each question is an affirmative “Yes” with a level of agreement reflecting the judge’s subjective opinion. A judge either agrees or disagrees that the answer is “Yes” with varying degrees in between shown below:

Agreement Level with “Yes”	Interpretive Meaning	Points per Question		
		Criteria #1	Criteria #2	Criteria #3
Very Strongly Agree	There is sufficient information to make me believe the answer to this question is “Yes” with negligible doubt	60	60	80
Strongly Agree	There is sufficient information to make believe the answer is “Yes” but few weaknesses make me doubtful	48	48	64
Agree	There is information to make me believe the answer is “Yes” but key weaknesses make me highly doubtful	36	36	48
Disagree	There information to make me believe the answer should be “No” but key strengths make me hopeful	24	24	32
Strong Disagree	There is sufficient information to make me believe the answer to this question should be “No”	12	12	16
Very Strongly Disagree	There is sufficient information to make believe the answer to this question is “No” with little doubt	0	0	0

For each application, the judges will assign a consensus point value per criteria and determine the final point score. Under section 24, the Federal Advisory Committee act shall not apply to the DOE selected judging panel for prize competitions.

APPENDIX B

SCORING CRITERIA FOR GRAND PRIZES

Criteria#1 – Repeatability

Metric#1 - Time-adjusted capacity

Maximum 250 points

The time-adjusted capacity is calculated using the following equation:

$$I = \sum_{t=0}^7 \frac{S_t}{(1.1)^t}$$

S_t = Sum of installed capacity (in MW) with a Total Time duration that falls within the allowed period corresponding to t as shown in the following table for each contest:

$t =$	0	1	2	3	4	5	6	7
Small System Contest								
Periods (in days)	0-7	8-14	15 – 21	22 – 28	29 – 35	36 – 42	43 – 49	50 – 56
Large System Contest								
Periods (in days)	0-49	50 - 56	57 – 63	64 - 70	71 – 77	78 - 84	85 – 91	92 – 98

Points accrued for the calculated value of I are given in the following tables for Small System Contest and Large System Contest:

Small System Contest	Value ≥ (MW)	Points								
1	15	250	13.5	200	12	150	10.5	100	9	50
2	14.925	248	13.425	198	11.925	148	10.425	98	8.925	48
3	14.85	245	13.35	195	11.85	145	10.35	95	8.85	45
4	14.775	243	13.275	193	11.775	143	10.275	93	8.775	43
5	14.7	240	13.2	190	11.7	140	10.2	90	8.7	40
6	14.625	238	13.125	188	11.625	138	10.125	88	8.625	38
7	14.55	235	13.05	185	11.55	135	10.05	85	8.55	35
8	14.475	233	12.975	183	11.475	133	9.975	83	8.475	33
9	14.4	230	12.9	180	11.4	130	9.9	80	8.4	30
10	14.325	228	12.825	178	11.325	128	9.825	78	8.325	28
11	14.25	225	12.75	175	11.25	125	9.75	75	8.25	25
12	14.175	223	12.675	173	11.175	123	9.675	73	8.175	23
13	14.1	220	12.6	170	11.1	120	9.6	70	8.1	20
14	14.025	218	12.525	168	11.025	118	9.525	68	8.025	18
15	13.95	215	12.45	165	10.95	115	9.45	65	7.95	15
16	13.875	213	12.375	163	10.875	113	9.375	63	7.875	13
17	13.8	210	12.3	160	10.8	110	9.3	60	7.8	10
18	13.725	208	12.225	158	10.725	108	9.225	58	7.725	8
19	13.65	205	12.15	155	10.65	105	9.15	55	7.65	5
20	13.575	203	12.075	153	10.575	103	9.075	53	7.575	3

Large System Contest	Value ≥ (MW)	Points								
1	22.500	250	20.250	200	18.000	150	15.750	100	13.500	50
2	22.388	248	20.138	198	17.888	148	15.638	98	13.387	48
3	22.275	245	20.025	195	17.775	145	15.525	95	13.275	45
4	22.163	243	19.913	193	17.663	143	15.413	93	13.162	43
5	22.050	240	19.800	190	17.550	140	15.300	90	13.050	40
6	21.938	238	19.688	188	17.438	138	15.188	88	12.937	38
7	21.825	235	19.575	185	17.325	135	15.075	85	12.825	35
8	21.713	233	19.463	183	17.213	133	14.963	83	12.712	33
9	21.600	230	19.350	180	17.100	130	14.850	80	12.600	30
10	21.488	228	19.238	178	16.988	128	14.738	78	12.487	28
11	21.375	225	19.125	175	16.875	125	14.625	75	12.375	25
12	21.263	223	19.013	173	16.763	123	14.512	73	12.262	23
13	21.150	220	18.900	170	16.650	120	14.400	70	12.150	20
14	21.038	218	18.788	168	16.538	118	14.287	68	12.037	18
15	20.925	215	18.675	165	16.425	115	14.175	65	11.925	15
16	20.813	213	18.563	163	16.313	113	14.062	63	11.812	13
17	20.700	210	18.450	160	16.200	110	13.950	60	11.700	10
18	20.588	208	18.338	158	16.088	108	13.837	58	11.587	8
19	20.475	205	18.225	155	15.975	105	13.725	55	11.475	5
20	20.363	203	18.113	153	15.863	103	13.612	53	11.362	3

Criteria#1 – Repeatability

Metric#2– Normalized time-adjusted capacity

Maximum 1000 points

The normalized time-adjusted capacity I^* equals I divided by a team’s total eligible installed capacity S during the 18-month performance period.

$$I^* = \frac{1}{S^*} \times \sum_{t=0}^7 \frac{S_t}{(1.1)^t}$$

S^* = Sum of all installed capacity (in MW) during the observed performance period with any eligible Total Time duration, and S_t = Sum of installed capacity (in MW) with a Total Time duration that falls within the allowed period corresponding to t as shown in the following table for each contest:

$t =$	0	1	2	3	4	5	6	7
Small System Contest								
Periods (in days)	0-7	8-14	15 – 21	22 – 28	29 – 35	36 – 42	43 – 49	50 – 56
Large System Contest								
Periods (in days)	0-49	50 - 56	57 – 63	64 - 70	71 – 77	78 - 84	85 – 91	92 – 98

Points accrued for the calculated value of I^* are given in the following table for both contests:

No.	Value ≥ (%)	Points								
1	100	1000	80	800	60	600	40	400	20	200
2	99	990	79	790	59	590	39	390	19.5	190
3	98	980	78	780	58	580	38	380	19	180
4	97	970	77	770	57	570	37	370	18.5	170
5	96	960	76	760	56	560	36	360	18	160
6	95	950	75	750	55	550	35	350	17.5	150
7	94	940	74	740	54	540	34	340	17	140
8	93	930	73	730	53	530	33	330	16.5	130
9	92	920	72	720	52	520	32	320	16	120
10	91	910	71	710	51	510	31	310	15.5	110
11	90	900	70	700	50	500	30	300	15	100
12	89	890	69	690	49	490	29	290	14.5	90
13	88	880	68	680	48	480	28	280	14	80
14	87	870	67	670	47	470	27	270	13.5	70
15	86	860	66	660	46	460	26	260	13	60
16	85	850	65	650	45	450	25	250	12.5	50
17	84	840	64	640	44	440	24	240	12	40
18	83	830	63	630	43	430	23	230	11.5	30
19	82	820	62	620	42	420	22	220	11	20
20	81	810	61	610	41	410	21	210	10.5	10

APPENDIX B

SCORING CRITERIA FOR GRAND PRIZES

Criteria#2 – Time Performance

Metric#3 – Expected value of Total Time Maximum 250 points

Metric#4 – Total Time variability Maximum 1000 points

The Expected value of Total Time, D , and the Total Time Variability, V , are calculated using the following equations:

$$D = \frac{1}{S} \times \sum_{t=0}^7 S_t(7^x + 7t)$$

$$V = \sqrt{V^2}, \text{ where } V^2 = \frac{1}{S} \times \sum_{t=0}^7 S_t[D - (7^x + 7t)]^2$$

Where $x = 1$ for Small System Contest, $x = 2$ for Large System Contest and $S = \sum_{t=0}^7 S_t$

S_t = Sum of installed capacity (in MW) with a Total Time duration (period) that falls within the allowed period corresponding to t as shown in the following table for each contest:

$t =$	0	1	2	3	4	5	6	7
Small System Contest								
Periods (in days)	0-7	8-14	15 – 21	22 – 28	29 – 35	36 – 42	43 – 49	50 – 56
Large System Contest								
Periods (in days)	0-49	50 - 56	57 – 63	64 - 70	71 – 77	78 - 84	85 – 91	92 – 98

Points accrued for the calculated value of D and V are given in the following tables for Small System Contest and Large System Contest:

Small System Contest - Points for D

Small System Contest	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points
1	7.00	250	14.00	200	21.00	150	28.00	100	35.00	50
2	7.35	248	14.35	198	21.35	147.5	28.35	98	35.35	48
3	7.70	245	14.70	195	21.70	145	28.70	95	35.70	45
4	8.05	243	15.05	193	22.05	142.5	29.05	93	36.05	43
5	8.40	240	15.40	190	22.40	140	29.40	90	36.40	40
6	8.75	238	15.75	188	22.75	137.5	29.75	88	36.75	38
7	9.10	235	16.10	185	23.10	135	30.10	85	37.10	35
8	9.45	233	16.45	183	23.45	132.5	30.45	83	37.45	33

9	9.80	230	16.80	180	23.80	130	30.80	80	37.80	30
10	10.15	228	17.15	178	24.15	127.5	31.15	78	38.15	28
11	10.50	225	17.50	175	24.50	125	31.50	75	38.50	25
12	10.85	223	17.85	173	24.85	122.5	31.85	73	38.85	23
13	11.20	220	18.20	170	25.20	120	32.20	70	39.20	20
14	11.55	218	18.55	168	25.55	117.5	32.55	68	39.55	18
15	11.90	215	18.90	165	25.90	115	32.90	65	39.90	15
16	12.25	213	19.25	163	26.25	112.5	33.25	63	40.25	13
17	12.60	210	19.60	160	26.60	110	33.60	60	40.60	10
18	12.95	208	19.95	158	26.95	107.5	33.95	58	40.95	8
19	13.30	205	20.30	155	27.30	105	34.30	55	41.30	5
20	13.65	203	20.65	153	27.65	102.5	34.65	53	41.65	3

Large System Contest - Points for D

Large System Contest	Value ≤ (days)	Points	Value ≤ (days)	Points						
1	49	250	56	200	63	150	70	100	77	50
2	49.35	248	56.35	198	63.35	148	70.35	98	77.35	48
3	49.7	245	56.7	195	63.7	145	70.7	95	77.7	45
4	50.05	243	57.05	193	64.05	143	71.05	93	78.05	43
5	50.4	240	57.4	190	64.4	140	71.4	90	78.4	40
6	50.75	238	57.75	188	64.75	138	71.75	88	78.75	38
7	51.1	235	58.1	185	65.1	135	72.1	85	79.1	35
8	51.45	233	58.45	183	65.45	133	72.45	83	79.45	33
9	51.8	230	58.8	180	65.8	130	72.8	80	79.8	30
10	52.15	228	59.15	178	66.15	128	73.15	78	80.15	28
11	52.5	225	59.5	175	66.5	125	73.5	75	80.5	25
12	52.85	223	59.85	173	66.85	123	73.85	73	80.85	23
13	53.2	220	60.2	170	67.2	120	74.2	70	81.2	20
14	53.55	218	60.55	168	67.55	118	74.55	68	81.55	18
15	53.9	215	60.9	165	67.9	115	74.9	65	81.9	15
16	54.25	213	61.25	163	68.25	113	75.25	63	82.25	13
17	54.6	210	61.6	160	68.6	110	75.6	60	82.6	10
18	54.95	208	61.95	158	68.95	108	75.95	58	82.95	8
19	55.3	205	62.3	155	69.3	105	76.3	55	83.3	5
20	55.65	203	62.65	153	69.65	103	76.65	53	83.65	3

Small System Contest - Points for V

Small System Contest	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points
1	2	1000	5	800	12	600	19	400	26	200
2	2.15	990	5.35	790	12.35	590	19.35	390	26.35	190
3	2.3	980	5.7	780	12.7	580	19.7	380	26.7	180
4	2.45	970	6.05	770	13.05	570	20.05	370	27.05	170
5	2.6	960	6.4	760	13.4	560	20.4	360	27.4	160
6	2.75	950	6.75	750	13.75	550	20.75	350	27.75	150
7	2.9	940	7.1	740	14.1	540	21.1	340	28.1	140
8	3.05	930	7.45	730	14.45	530	21.45	330	28.45	130
9	3.2	920	7.8	720	14.8	520	21.8	320	28.8	120

10	3.35	910	8.15	710	15.15	510	22.15	310	29.15	110
11	3.5	900	8.5	700	15.5	500	22.5	300	29.5	100
12	3.65	890	8.85	690	15.85	490	22.85	290	29.85	90
13	3.8	880	9.2	680	16.2	480	23.2	280	30.2	80
14	3.95	870	9.55	670	16.55	470	23.55	270	30.55	70
15	4.1	860	9.9	660	16.9	460	23.9	260	30.9	60
16	4.25	850	10.25	650	17.25	450	24.25	250	31.25	50
17	4.4	840	10.6	640	17.6	440	24.6	240	31.6	40
18	4.55	830	10.95	630	17.95	430	24.95	230	31.95	30
19	4.7	820	11.3	620	18.3	420	25.3	220	32.3	20
20	4.85	810	11.65	610	18.65	410	25.65	210	32.65	10

Large System Contest - Points for V

Large System Contest	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points	Value ≤ (days)	Points
1	21	1000	28	800	35	600	42	400	49	200
2	21.35	990	28.35	790	35.35	590	42.35	390	49.35	190
3	21.7	980	28.7	780	35.7	580	42.7	380	49.7	180
4	22.05	970	29.05	770	36.05	570	43.05	370	50.05	170
5	22.4	960	29.4	760	36.4	560	43.4	360	50.4	160
6	22.75	950	29.75	750	36.75	550	43.75	350	50.75	150
7	23.1	940	30.1	740	37.1	540	44.1	340	51.1	140
8	23.45	930	30.45	730	37.45	530	44.45	330	51.45	130
9	23.8	920	30.8	720	37.8	520	44.8	320	51.8	120
10	24.15	910	31.15	710	38.15	510	45.15	310	52.15	110
11	24.5	900	31.5	700	38.5	500	45.5	300	52.5	100
12	24.85	890	31.85	690	38.85	490	45.85	290	52.85	90
13	25.2	880	32.2	680	39.2	480	46.2	280	53.2	80
14	25.55	870	32.55	670	39.55	470	46.55	270	53.55	70
15	25.9	860	32.9	660	39.9	460	46.9	260	53.9	60
16	26.25	850	33.25	650	40.25	450	47.25	250	54.25	50
17	26.6	840	33.6	640	40.6	440	47.6	240	54.6	40
18	26.95	830	33.95	630	40.95	430	47.95	230	54.95	30
19	27.3	820	34.3	620	41.3	420	48.3	220	55.3	20
20	27.65	810	34.65	610	41.65	410	48.65	210	55.65	10

APPENDIX B

SCORING CRITERIA FOR GRAND PRIZES

Bonus Criterion – Replicability

Metric#5 – Diversity of jurisdictions

Maximum 5000 points

The size-adjusted jurisdiction diversity performance G is calculated using the following equations:

$$G = 1 - \sum_{i=1}^N \left(\frac{H_i}{H}\right)^2$$

$$H = \sum_{i=1}^N H_i$$

N = Total number of jurisdictions where PV systems were installed during the 18-month performance period with Total Time durations that do not exceed 56 days for Small System Contest and 98 days for Large System Contest.

H_i = Installed capacity (in MW) in jurisdiction i during the 18-month performance period with Total Time durations that do not exceed 56 days for the Small System Contest and 98 days for the Large System Contest.

Points accrued for the calculated value of G are given in the following tables for Small System Contest and Large System Contest:

Small System Contest	Value ≥ (%)	Points								
1	90	500	70	400	50	300	30	200	10.0	100
2	89	495	69	395	49	295	29	195	9.5	95
3	88	490	68	390	48	290	28	190	9.0	90
4	87	485	67	385	47	285	27	185	8.5	85
5	86	480	66	380	46	280	26	180	8.0	80
6	85	475	65	375	45	275	25	175	7.5	75
7	84	470	64	370	44	270	24	170	7.0	70
8	83	465	63	365	43	265	23	165	6.5	65
9	82	460	62	360	42	260	22	160	6.0	60
10	81	455	61	355	41	255	21	155	5.5	55
11	80	450	60	350	40	250	20	150	5.0	50
12	79	445	59	345	39	245	19	145	4.5	45
13	78	440	58	340	38	240	18	140	4.0	40
14	77	435	57	335	37	235	17	135	3.5	35
15	76	430	56	330	36	230	16	130	3.0	30
16	75	425	55	325	35	225	15	125	2.5	25
17	74	420	54	320	34	220	14	120	2.0	20
18	73	415	53	315	33	215	13	115	1.5	15
19	72	410	52	310	32	210	12	110	1.0	10
20	71	405	51	305	31	205	11	105	0.0	0

Large System Contest	Value ≥ (%)	Points								
1	70	500	50	400	30.00	300	20.00	200	15.00	100
2	69	495	49	395	29.50	295	19.75	195	14.25	95
3	68	490	48	390	29.00	290	19.50	190	13.50	90
4	67	485	47	385	28.50	285	19.25	185	12.75	85
5	66	480	46	380	28.00	280	19.00	180	12.00	80
6	65	475	45	375	27.50	275	18.75	175	11.25	75
7	64	470	44	370	27.00	270	18.50	170	10.50	70
8	63	465	43	365	26.50	265	18.25	165	9.75	65
9	62	460	42	360	26.00	260	18.00	160	9.00	60
10	61	455	41	355	25.50	255	17.75	155	8.00	55
11	60	450	40	350	25.00	250	17.50	150	7.50	50
12	59	445	39	345	24.50	245	17.25	145	6.75	45
13	58	440	38	340	24.00	240	17.00	140	6.00	40
14	57	435	37	335	23.50	235	16.75	135	5.25	35
15	56	430	36	330	23.00	230	16.50	130	4.50	30
16	55	425	35	325	22.50	225	16.25	125	3.75	25
17	54	420	34	320	22.00	220	16.00	120	3.00	20
18	53	415	33	315	21.50	215	15.75	115	2.25	15
19	52	410	32	310	21.00	210	15.50	110	1.50	10
20	51	405	31	305	20.50	205	15.25	105	0.00	0

APPENDIX C

Samples have not been provided at this time

APPENDIX D

A list of required documents/materials has not been provided at this time