



FSGP 2011 Solar Array Report

Due: 2011.02.01, Submit to FSGP Team Registration
ascteams@americansolarchallenge.org

Send reports in pdf format to: ascteams@americansolarchallenge.org

NOTE: Be sure that you test your pdf document prior to sending to ensure that when it is printed it is formatted correctly to print in portrait style on 8.5" x 11" paper.

Your report will be based on the type of solar array you intend to use in the FSGP 2011 event based on regulation 5.2. The following are instructions on preparing your team's report. Prepare your report using the instruction set that matches your solar car entry's style of array.

If your array style will be a 6.00m², use these instructions:

Your report should contain the following:

1. Team Name
2. Team Number
3. Array type based on regulation 5.2 (this should be 6.00m²)
4. Complete list of cells used on your solar array. List should indicate (regulation 3.4.E) for each unique type of cell used:
 - Cell manufacturer's name and contact info
 - Stock number, type, or description
 - Manufacturer's quote for cell area (square centimeters)
 - Manufacturer's quote for performance
 - Cost (US\$) per cell
 - Cell area (square centimeters)

Include a copy of the manufacturer's data sheets in the appendix of your report for each type of cell. *NOTE: you are only allowed a maximum of 6 types of cells. Any change in any of the cell characteristics would dictate a new cell type being used.*

5. A detailed breakdown of the size and dimensions of each type of cell listed in #4 after trimming or cutting as placed on the solar car. Show your calculations on how you determined cell area. Cell area should be in square centimeters (regulation 3.4.E.6).
6. A detailed drawing showing the specific layout of your solar array including how the array is broken into sub arrays and the layout for each solar cell indicating which type of cell is used where on the array (regulation 3.4.E.7).
7. Calculations determining the total cell area for your whole solar array. Show your calculations and use square centimeters (regulation 3.4.F.7). *NOTE: this style of array is limited to a total of 6 square meters of total cell area.*

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8. Indicate all other non-photovoltaic/ photovoltaic technology used as defined in regulation 5.2. Report how these technologies will be used during racing and charging times. Indicate how these technologies will fit into the car volume allowed per regulation 6.1.

If your array style will be a 9.00m² using cells from the ASC 2010 approved list, use these instructions:

Your report should contain the following:

1. Team Name
2. Team Number
3. Array type based on regulation 5.2 (this should be 9.00m²)
4. Complete list of cells used on your solar array. List should indicate (regulation 3.4.E) for each unique type of cell used:
 - Cell manufacturer's name and contact info
 - Stock number, type, or description
 - Manufacturer's quote for cell area (square centimeters)
 - Manufacturer's quote for performance
 - Cost (US\$) per cell
 - Cell area (square centimeters)

Include a copy of the manufacturer's data sheets in the appendix of your report for each type of cell. *NOTE that cells used in this class must not exceed US\$10/watt for bare cells, see Regulation. 5.2.C for details.*

5. A detailed breakdown of the size and dimensions of each type of cell listed in #4 after trimming or cutting as placed on the solar car. Show your calculations on how you determined cell area. Cell area should be in square centimeters (regulation 3.4.E.6).
6. A detailed drawing showing the specific layout of your solar array including how the array is broken into sub arrays and the layout for each solar cell indicating which type of cell is used where on the array (regulation 3.4.E.7).
7. Calculations determining the total cell area for your whole solar array. Show your calculations and use square centimeters (regulation 3.4.E.7). Also include the dimensions of your solar car per regulation 6.1. *NOTE: this style of array is mainly limited to the body size per regulation 6.1, Solar Car Dimensions.*
8. Indicate all other non-photovoltaic/ photovoltaic technology used as defined in regulation 5.2. Report how these technologies will be used during racing and charging times. Indicate how these technologies will fit into the car volume allowed per regulation 6.1.

All calculations should be reproducible by inspectors.

The purpose of these reports is to pre-scrutineer your car's solar array. Inspectors will compare your report to your car at scrutineering. Be sure to remember to bring a sample raw solar cell (regulation 5.2.B) of each type used to scrutineering for validation purposes