Energy Trust Shade Effect Evaluation Form

Job Name: ____________________
Contractor: ____________________
Date: ____________________
Array Tilt: ____________________
Array Orientation: __________
Zip Code of Site: __________

The sun path chart to the right is for a solar electric system located in Pendleton, Oregon tilted 0
degrees with a 90 degree azimuthal orientation. The annual AC output for a system with these
characteristics is about 1.1 kWh/Watt DC per year.

For comparison, annual production capacity per Watt of an optimally oriented system (35 degree tilt
and 177 degree azimuth) is 1.31 kWh/Watt DC per year.

Local Production Capacity = 1.31 kWh/Watt DC per year.

At Pendleton, a system oriented as in the sun path chart to the right will produce 84% of the annual
electricity produced by an optimally oriented system.

Draw the horizon on the sun path chart and shade obstructed areas. To calculate the percent reduction
due to shading, enter the percentage of system power output shown on the sun path chart for areas
shaded by obstructions into the table on the right.

For example, assume the percentage of system power output from 7:00 to 8:00 between September
22 and October 21 is 0.4%, and 50% of that period is shaded. Enter 0.2% in the column under 7-8 and
the row labeled Feb-Mar on one side and Sep-Oct on the other. Enter zero for each box where there is
no shading. Note that hours are in solar time.

Sum the shading values in each column and enter the total in the bottom row. Sum the bottom row to
determine the percent annual shading.

Percent Annual Shading: _____