Renewable Energy Modeling Software General Information

Software Name:

Software Manufacturer:

Version: **Date of last update:**

Retail price:

Website:

Supported operating systems: *PC:*
                                      Mac:
                                      Other:

Notes on software usability:

Notes on Required Training:

User Level

Input and Output Reports:

Software Approved for: **PV:**
                               Thermal:
                               Wind:

Evaluator Name	Evaluator Signature	Date
Supervisor Name	Supervisor Signature	Date

Solar Photovoltaic (PV) Input Checklist (Page 1 of 2):

Climate Data Inputs

Software must use at least one of the green-designated climate data inputs, or have signed approval for a red-designated climate data input

TMY2	🟩	***Notes***:
TMY3	🟩	***Notes***:
NASA SSE	🟩	***Notes***:
EnergyPlus Weather (EPW)	🟩	***Notes***:

Other	🟥	***Data type:***
		Notes:
		Signature:

System Orientation

Azimuth	🟩	***Notes***:
Tilt	🟩	***Notes***:

Tracking options:

-Fixed	🟩	***Notes***:
-One-axis	🟩	***Notes***:
-Two-axis	🟩	***Notes***:

Losses

Loss input (Minimum of one)	🟩	***Notes***:

OR...

Shading	🟩	***Notes***:
Snow/Soiling	🟨	***Notes***:
Other Losses	🟨	***Notes***:

Solar Photovoltaic (PV) Input Checklist (Page 2 of 2):

System

PV Module library		*Notes*:

OR...

Certified DC system size		*Notes*:

OR...

-Number of units		*Notes*:
-Panel efficiency		*Notes*:
-Panel size		*Notes*:

AND…

Inverter library		*Notes*:

OR...

Inverter efficiency		*Notes*:

Outputs

Monthly AC energy production		*Notes*:
Annual AC energy production		*Notes*:

Solar Thermal Input Checklist (Page 1 of 2):

Climate Data Inputs

Software must use at least one of the green-designated climate data inputs, or have signed approval for a red-designated climate data input

Input		Notes
TMY2	🟩	Notes:
TMY3	🟩	Notes:
NASA SSE	🟩	Notes:
EnergyPlus Weather (EPW)	🟩	Notes:
Site collected data	🟩	Notes:

Input		
Other	🟥	Data type:
		Notes:
		Signature:

System Orientation

		Notes
Azimuth	🟩	Notes:
Tilt	🟩	Notes:

Losses

		Notes
Loss input (Minimum of one)	🟩	Notes:

OR...

		Notes
Shading	🟩	Notes:
Snow/Soiling	🟨	Notes:
Other Losses	🟨	Notes:

Solar Thermal Input Checklist (Page 2 of 2):

Collectors

Number of units	🟩	*Notes*:
Collector fluid (water or glycol)	🟩	*Notes*:
-Water / glycol blends	🟨	*Notes*:

Collector library	🟩	*Notes*:

OR....

Detailed solar collector inputs (from SRCC

-Type	🟩	*Notes*:
-Collector area	🟩	*Notes*:
-FR coefficient / ISO Eqn Y-Intercept	🟩	*Notes*:
-Fr UL coefficient / ISO Eqn Slope	🟩	*Notes*:

Storage

Storage tank size	🟩	*Notes*:
Storage tank temperature	🟩	*Notes*:
Heat exchanger efficiency	🟩	*Notes*:
Water supply temperature / mains profile	🟩	*Notes*:

Outputs

Monthly AC energy production	🟩	*Notes*:
Annual AC energy production	🟩	*Notes*:

Wind Power Input Checklist:

Climate Data Inputs

| Hourly Wind Resource Data | | *Notes*: |
| Wind shear coefficient | | *Notes*: |

Losses

| Loss input (Minimum of one) | | *Notes*: |

System

| Hub height | | *Notes*: |

AND…

| Wind Turbine library | | *Notes*: |

OR....

Turbine Power Curve Table
-Power at 1 m/s intervals from cut-in to cut-out speed | | *Notes*:

OR....

Wind Turbine Inputs:

-Rated Output (at 11 m/s)		*Notes*:
-Peak Output		*Notes*:
-Peak Wind speed (in m/s)		*Notes*:
-Cut-in wind speed		*Notes*:
-Cut-out wind speed		*Notes*:

Outputs

| Monthly AC energy production | | *Notes*: |
| Annual AC energy production | | *Notes*: |

Software Test Results

Solar PV	Annual Energy Production (kWh / year)				
Test Case:	Minimum	Software Ouput	Maximum	Pass?	Notes
Anchorage - 60	2,398		3,451		
Fairbanks - 90	2,409		3,467		
Juneau - 45	2,516		3,620		

Solar Thermal	Annual Energy Production (kWh / year)				
Test Case:	Minimum	Software Ouput	Maximum	Pass?	Notes
Anchorage - 60	1,515		2,179		
Fairbanks - 90	1,648		2,371		
Juneau - 45	1,595		2,295		

Solar Thermal	Annual Energy Production (MMBTU / year)				
Test Case:	Minimum	Software Ouput	Maximum	Pass?	Notes
Anchorage - 60	5.168		7.437		
Fairbanks - 90	5.622		8.090		
Juneau - 45	5.442		7.831		

Wind	Annual Energy Production (kWh / year)				
Test Case:	Minimum	Software Ouput	Maximum	Pass?	Notes
Bethel	10,793		15,532		
Dillingham	7,769		11,180		
Kodiak	12,062		17,357		