Load Program

Run program

Check power level of solar cells

Is $V_{\text{solar cell}} > V_{\text{max}}$?

Yes

Light the "Solar Panel" overvoltage LED

No

Is $P_{\text{solar cell}} > P_{\text{min}}$?

Yes

Light the Solar Power LED

No

Write voltage and current to LCD

Check power level of Wind Generator

Is $V_{\text{wind generator}} > V_{\text{max}}$?

Yes

Light the "Wind Generator" overvoltage LED

No

Wait for system reset then re-execute the program

Shut down the system

Wait for system reset then re-execute the program

Yes
Is the Load Power sufficient for charging?

Yes

Light the "Battery Not Charging" LED

No

Is the Wind Power generator > P min?

Yes

Write voltage and current to LCD

No

Adjust switching regulator to obtain max power available from each source

Add the power levels together

Are the two supplies together enough power?

Yes

Light the "Battery Power" LED

No

Read the battery voltage

Shut down both inputs

Write the Battery Voltage to an LCD

Is the battery voltage sufficient for charging?

Yes

Light the "Battery Not Charging" LED

No

Read the Load Power
Write the load power out to the LCD

Is the current being supplied to the load too high

Yes
Light the "System Overload" LED

No
Take a new sample