Raspberry Pi Installation Instructions for Pre-Configured Pis

Note: The Set-up guide has been provided in the event troubleshooting is needed. Since this pi has been pre-configured, you do not need to complete the steps in the set-up guide.

If Using Skyview to Verify Communication, do steps 1-10 in order:

1. Verify turbine is communicating with Skyview software on dedicated computer
   a. Make sure Zigbee is plugged into computer and within direct line of sight of the turbine, such as in a window or in a weather-protected area outside. NOTE: Zigbee is **NOT** weatherproof, and won't work inside a metal box!
   b. If all lights are green and turbine is communicating, proceed. Otherwise, check the "Customer Skyview Comm Troubleshooting Guide" for help with establishing a radio connection between the Zigbee and the turbine.
2. Put the Pi into the plastic case
3. Plug the SD card into the Pi
4. Position the Pi where the Zigbee radio cord can reach it, but the Zigbee radio can still "see" the turbine
   a. Important to note you will also need to plan for the Ethernet cord (Pi needs this to send out its data, since it is not wifi enabled) and the micro-USB cord (which powers the Pi).
5. Disconnect the Zigbee from the dedicated computer
6. Reconnect the Zigbee into the Pi (i.e. plug the Zigbee into one of the Pi's USB ports)
7. Connect an Ethernet cord (connected to live internet, test with a laptop/computer beforehand to make sure) into the Pi. This could be the one from the dedicated computer, if that computer will no longer be used(!), or it could be a separate ethernet cable.
8. Plug the Pi power cord into the Pi's micro-USB port and the other end into a 60Hz power socket (normal wall outlet)
9. Watch blinky lights on the pi for 1-3 minutes while the pi establishes a connection and begins to report data
10. Verify pi is communicating with OpenEI database
    a. Go to: http://en.openei.org/wiki/Wind_for_Schools_Portal_Comparison
    b. Select your turbine from the drop-down menu
       i. If not listed, you need to create your own page first. Go to http://en.openei.org/wiki/Turbine_Support to do this. There are steps on the page to help walk you through the process.
    c. Date/time next to "Timestamp" should be current.

11. If troubleshooting is needed, refer to the "Troubleshooting" section of the "Setup Guide for WfS Raspberry Pi".
    a. Start with the steps to remotely login to the Pi from another computer on the same network, for easiest troubleshooting
        i. IMPORTANT: You cannot remotely connect (Using a VNC program such as the one recommended in the setup guide) to the Pi from a source using wifi (such as a laptop). The VNC program MUST be downloaded to another computer wired into the internet to work. It is easiest if the other computer is wired into the same network; otherwise you may hit firewall complications your system administrator will have to help with.
        ii. You will need to know the Pi's IP address to remote-connect. This is usually found by an email the Pi sends itself when it turns on. You may need to contact Dr. Miller at Kansas State University (ruthdouglas@gmail.com) to gain this information.
    b. Connecting an HDMI cable to a monitor also works, but remote access is simplest.

If you do not have/do not want to download Skyview:

You can go ahead and set up the Pi following steps 2-9 above, but if the turbine has not been communicating with the Zigbee at all for some time (more than an hour), the Pi may not be able to establish communication, because the turbine is not trying very often to reach it. You will be able to tell, even without a screen connection to the Pi, because the Zigbee will not blink an orange light about every 30 sec., and of course you won't see any new data on OpenEI. To remedy this, turn the turbine off at the breaker for about 10 minutes, then turn it back on, and the turbine will attempt to establish communication again. Allow 2 minutes after turning on the turbine for the communications link to establish. If you try this a couple of times without success, see step 11 above.