A COMPLETE SYSTEM WILL CONSIST OF THE FOLLOWING COMPONENTS:

- FAA Approved Marking for Day and Night
- Properly Sized Solar System for the Location and loading
  - Solar Modules
  - Charge Controller
  - Battery (s)
  - Inverter

Marking is Required on Towers 200’ (61M) AGL and Above
SOLAR POWER ACROSS THE USA:

- **Irradiance** is a measure of the sun’s power available at the surface of the earth and it averages about 1000 watts per square meter. This means with the current solar cells efficiencies about 140 watts to 160 watts can be generated per square meter of solar cells placed into full sun.

- **Insolation** is a measure of the available energy from the sun and is expressed in terms of “full sun hours.”

- The **Insolation** across the nation varies and has to be considered when sizing a solar system.

- The **Insolation Zone Map** below offers a general idea of the Insolation levels for the nation.

- Use the map to first determine the zone that your particular system will be installed.

---

**INSOLATION ZONE MAP**

*Winter Months Average*

<table>
<thead>
<tr>
<th>Zone</th>
<th>Insolation Range</th>
<th>Average-Length of Full Sun Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZONE 1</td>
<td>0—2 hours per day</td>
<td>0—2</td>
</tr>
<tr>
<td>ZONE 2</td>
<td>3—4 hours per day</td>
<td>3—4</td>
</tr>
<tr>
<td>ZONE 3</td>
<td>4—5 hours per day</td>
<td>4—5</td>
</tr>
<tr>
<td>ZONE 4</td>
<td>5—6 hours per day</td>
<td>5—6</td>
</tr>
<tr>
<td>ZONE 5</td>
<td>6 plus hours per day</td>
<td>6 plus</td>
</tr>
</tbody>
</table>

---
Solar Panel Mounting Kits

MODEL WTC PMK202

KIT INCLUDES:
- Two 10’ Tower Sections
- Two 5’ Tower Sections for Foundation
- Cross Bracing and associated Hardware
- Two Grounding Kits for Towers

* Concrete not supplied with the kits
** Up to Six (6) Solar Panels

MODEL WTC PMK201

KIT INCLUDES:
- One 10’ Tower Section
- One 5’ Tower Section for Foundation
- Cross Bracing and associated Hardware
- One Grounding Kits for Towers

* Concrete not supplied with the kits
** Up to Two (2) Solar Panels
**FAA Approved Obstruction Marking:**

- Per the AC 70/7460-1K circular (or latest version) any temporary or permanent structure, including all appurtenances, that exceeds an overall height of 200’ (61M) AGL must be marked for day and nighttime.

- Any failure that lasts more than thirty minutes and affects a top light should be reported immediately to the nearest flight service station.

- All aviation obstruction lighting should meet the standards laid out in the AC 150/5345/-43 or latest version circular. Exterior Paint must meet the Federal Standard FED-STD-595.

- FAA Solar systems must be sized to power the system for at least 7 days during the winter. (FAA Solar Brief 1/14/08 EB 76 Page 10 Par 4.e)

**FAA Marking Option A**

**Night Time Marking:**
- LED Flashing Red Beacon (L-864) - One beacon is required on towers with appurtenances up to 350’. The intensity in candelas should be 2,000

- LED Steady Burning Red Marker (L-810) - Two Marker lights are required on towers with appurtenances up to 350’. The intensity in candelas should be 32

**Day Time Marking:**
- Alternating bands of Aviation Orange and White paint

*Power Consumption of the System: Total of 54.6 watts (During the night)*

**Zone 3** Model WTC SK201  
**Zone 4** Model WTC SK202  
**Zone 5** Model WTC SK203

*Call for pricing on these kits. Other kits available for Zone 2 and Zone 1*

**FAA Marking Option B**

**Night Time Marking:**
- LED Flashing Red Beacon (L-864) - One beacon is required on towers with appurtenances up to 350’. The intensity in candelas should be 2,000

**Day Time Marking:**
- Strobe Flashing White Beacon (L-865) - One beacon is required on towers with appurtenances up to 350’. The intensity in candelas should be 20,000

*Power Consumption of the System: Total of 54.6 watts (During the night)  
Total of 144.4 watts (During the day)*

**Zone 3** Model WTC SK204  
**Zone 4** Model WTC SK205  
**Zone 5** Model WTC SK205