To construct a solar electric system, the local municipality and utility require a permit and inspection. Solar installers working in different municipalities must often adhere to different permit requirements. Obtaining approval for a building permit can take from one hour to eight weeks. Long permit issuance times slow down the installation process. After a system is installed, the solar installer is typically given a four-hour timeframe for an inspection that takes 20 minutes. As installers are paid by the hour, a shorter timeframe for inspections would reduce the installation costs that are passed on to consumers.

Specific Recommendations

The following are recommendations for streamlining the permitting and inspection process for residential, roof-mounted photovoltaic (PV) installations:

- **Adoption of California Solar Rights Act**
  Ensure the municipality fully implements the Solar Rights Act. This mean it should not require planning department reviews that deal with aesthetic issues, as such reviews conflict with the intent of the Solar Rights Act, increasing costs and delaying permit issuance.

- **Ensure Fixed-Fee Permits with Reasonable Maximum**
  Ensure that permit fees are fixed, rather than varying based on system size or value. Some jurisdictions base permit fees on the value of a system, which may exceed the maximum cost recovery amount allowed under state law for solar permits. It normally takes between two and four hours to process a permit and complete an inspection. Thus, for PV systems up to 15 kW, SolarTech proposes that permit fees be no more than the maximum cost recovery amount or $300, whichever is less.

  Commercial solar installations can also have a permit fee cap. For example, in Colorado, Senate Bill 117, sponsored by Sen. Shawn Mitchell, R-Broomfield, limits permit fees that municipalities charge to a maximum of $300 for residential solar projects and $1,000 for non-residential projects. The tables that follow these recommendations show what Northern California municipalities currently charge for solar permits.

- **Establish Over-the-Counter Permits**
  Ensure that solar residential permits are issued "over the counter," (same day) especially for installations that meet the following criteria:
  - The permit application that is submitted conforms to a municipality-recognized standard permit form or process;
  - The roof rafters are not over-spanned according to established building codes. Such roofs can safely support the extra weight of a few pounds per square foot for PV panels;
  - The weight of the solar panels and mounting hardware is less than four pounds per square foot;
  - The weight of the solar array at each attachment point is less than 40 pounds per such point; and
  - The solar panels are no more than 18 inches off the roof surface .

  Note: SolarTech proposes that these criteria apply to homes built after the 1940s with adequately spanned rafters or trusses, or for homes built to meet modern building codes designed to hold the extra weight of a few pounds per square foot (similar to the weight of an extra layer of composite asphalt roofing material).

- **Estimated Date for Permit Issuance**
  If more than one day is required to issue the permit, municipalities should provide an estimate of the time required so that installations can be scheduled in a reasonable timeframe.

- **Establish a Narrow Inspection Timeframe**
  Establish narrow inspection windows for solar installers. Municipalities should strive to schedule the inspection appointment within one business day of such a request. The inspection window should be a maximum of two hours on a given day. When feasible, specific inspection appointment times should be offered, such as the first inspection of the day or the first inspection after lunch. Some installers are willing to pay additional fees (beyond the permit cost) for such a benefit. Although many jurisdictions have half-day inspection windows, some have all-day windows, both of which are expensive for installers and consumers because a person must be paid to wait for the inspector.

  Unlike the construction industry, which has on-site project managers to address multiple inspections, a completed solar installation typically requires just one inspection. Because it is sometimes difficult to predict when the installation will be completed, appointments for inspections are difficult to schedule in advance of project completion.

- **Standard Permit Application and Inspection Checklist**
  Building departments should adopt regional standards for the permit submittal form and inspection checklist that do not vary much by municipality. SolarTech has created a proposed standard for the solar permit application. A similar standard should be developed for the inspection process and for the labeling (signage) requirements at the solar installation site.

- **Recommended Drawings for Permit Submittal**
  Municipalities should require no more than two drawings for residential solar permits

  1. A wiring diagram (schematic) of the electrical system with wire and conduit types and sizes shown
  2. A roof drawing showing the location of the solar modules relative to the entire roof surface.

  Also, the submittal package should mention the quantity and model number of the solar modules. Municipalities should accept drawings that are 8.5 inches x 11 inches in size. Large blueprint sizes are not needed to describe solar electric system plans. Outdated microfiche archiving that some municipalities currently "require" that only work for huge drawings should not dictate the permit submittal requirements. Documentation can be emailed or otherwise delivered more effectively as soft copies.

- **Remove Plot Plan Requirement**
  Municipalities should not require a plot plan of the property or property set-backs to the structure for flush-mounted rooftop systems on existing structures because the structure is already built and the roof drawing specifies relevant information about the system's location.

- **Remove Professional Engineering Stamp Requirement**
  Municipalities should not require Professional Engineering stamps for structural issues for flush-mounted rooftop systems, unless there are unique structural issues that need to be addressed (such as roof rafters being over spanned).

For technical recommendations on a standard PV permit submittal application see http://www.solartech.org/. See Sierra Club PV permit fee study at http://lomaprieta.sierraclub.org/global_warming/fee_study.htm for further information on what northern California cities charge for a solar electric permit fee.

Kurt Newick compiled these recommendations (edited by Carl Mills) on behalf of SolarTech on 4/2/2008 for the leaders in California cities and counties. Kurt can be reached at 408-761-2029 or KurtNewick@yahoo.com.