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MEMO

TO: All Building Officials in Miami-Dade County

FROM: Herminio F. González, P.E., M.S., Director
Building Code Compliance

DATE: May 28th, 2009

SUBJECT: Renewable Energy Uniform Permit Submittal Guidelines and
Instructions and Recommendations

In December 2008, the Miami-Dade County Board of Rules and Appeals (BORA) established the formation of a Solar Thermal/Solar Electric Sub-Committee. Ultimately, the Broward County Board of Rules and Appeals agreed to collaborate and a Joint Broward/Miami-Dade County Solar Thermal/Electric Subcommittee was formed.

The overarching objective of the Joint Subcommittee was to define minimum code requirements and institute countywide uniformity with regards to renewable energy installations. It was the desire of both Boards that, by identifying minimum requirements and creating standardization, the community would experience expanded access to renewable energy technology.

The task undertaken by the Joint Subcommittee was to review current permitting requirements and procedures, establish county-wide uniformity regarding requirements for obtaining a permit and consider associated requirements and recommendations. On April 27, 2009 the Subcommittee completed their consideration and submitted their recommendations to the full Broward and Miami-Dade County Boards of Rules and Appeals.

At their meeting of May 21, 2009 the Board of Rules and Appeals joined Broward County in adopting the recommendations of the Joint Broward/Miami-Dade County Solar Thermal and Solar Electric Subcommittee. In doing so the Board implemented the **“Uniform Permit Submittal Guideline for Solar Thermal and Solar Electric Installations in the High Velocity Hurricane Zone”** and the accompanying **“Solar Thermal/Electric Instructions and Recommendations”**.

All Building Officials in Miami-Dade County
May 28th, 2009
Page Two

The BORA approved documents are attached. These documents are effective immediately and are intended to provide direction to building departments in the review, permitting and inspection of solar thermal and solar electric permit applications throughout the High Velocity Hurricane Zone.

Should you have any questions, contact Mr. Michael Goolsby at (305) 375-4496.

HFG:MG

Attachments: (2)

1. Uniform Permit Submittal Guidelines for Solar Thermal and Solar Electric Installations
2. Solar Thermal/Electric Instructions and Recommendations

UNIFORM PERMIT SUBMITTAL GUIDELINES
for
SOLAR THERMAL AND SOLAR ELECTRIC INSTALLATIONS
in
THE HIGH VELOCITY HURRICANE ZONE

General Requirement	Submittal Requirements	F.S./Code Section
1. Permit Application		
		FBCB 105.3 BCAP 105.3
2. Building/Equipment Layout Plan		
		FBCB 106 BCAP 106
3. Structural Design		
<ul style="list-style-type: none"> Photovoltaic Roof Mounted Panel & Solar Thermal Equipment 	<p>Submit signed and sealed drawings & design calculations by licensed Professional Engineer or Registered Architect showing:</p> <ul style="list-style-type: none"> Documentation/verification exposed solar panel equipment meet wind loads. Documentation/verification support framing meets both uplift and lateral forces. Design of connections for the wind loads. Documentation/verification structural supports will accommodate additional dead loads. 	<p>FBCR4402.11.2 FBCEB 404 FBCR4403.1.2 FBCEB 707 FBCR4403.7.8 FBCR4403.9.1 FBCR4403.9.2 FBCR4403.9.3 FBCR4403.10</p> <p>Note: Dead Load compliance with the Exception contained in the FBCE Section 707.4.1 may be demonstrated by providing Dead Load criteria from the original plans.</p>
4. Roof Design		(FBC 611 References Sec. 1512-1525 FBC)
<ul style="list-style-type: none"> Building Integrated Photovoltaic (BIPV) 	Submit a Uniform HVHZ Permit Application.	FBCR4402.1.3 FBCB 1512.3 FBCR4402.1.2.1 FBCB 1512.2.1 FBCR4402.5.2 FBCB 1516.2
<ul style="list-style-type: none"> Photovoltaic Roof Mounted Panel 	<p>Submit a detail of the roof penetration flashing</p> <p>Submit clearance requirements.</p>	<p>FBCR4402.3 FBCB 1514</p> <p>FBCR4402.11.3.1 FBCB 1522.3.1</p>
<ul style="list-style-type: none"> Solar Thermal 	<p>Submit a detail of the roof penetration flashing.</p> <p>Submit clearance requirements.</p>	<p>FBCR4402.3 FBCB 1514</p> <p>FBCR4402.11.3.1 FBCB 1522.3.1</p>

5. System Components		
<ul style="list-style-type: none"> Solar Water Heater 	Submit FSEC Approval/Listing and System Reference Drawing.	FBCB 101 FBCR N1112 BCAP 101
<ul style="list-style-type: none"> Solar Water Heater using a PV powered pump 	Submit listing for PV panel and pump.	NEC Article 690
<ul style="list-style-type: none"> Solar Swimming Pool Water Heater 	Manufacturers selected system installation manual/detail and system specifications.	FBCB 106 BCAP 106
<ul style="list-style-type: none"> Solar Swimming Pool Water Heater 	Submit FSEC Approval/Listing and System Reference Drawing.	FBCB 101 F.S. 377.705 BCAP 101
<ul style="list-style-type: none"> Photovoltaic System Electrical Engineer Requirements 	Plans must be signed and sealed by a Professional Engineer if: a.) The system has a value of more than \$50,000, or; b.) The systems has an aggregate service capacity of 600 amperes (240 volts) or more for a residential electrical system, or; c.) The system has an aggregate service capacity of 800 amperes (240 volts) or more for a commercial or industrial electrical system.	F.S. 471.003(h)
<ul style="list-style-type: none"> Statutory Requirement 	FSEC will generate a System Certification Approval Form.	F.S. 377.705
<ul style="list-style-type: none"> Electrical Diagram 	Submit electrical diagram designed in accordance to the National Electrical Code Article 690 Solar Photovoltaic Systems, in its entirety.	NEC Article 690
<ul style="list-style-type: none"> Component Documentation 	FSEC Certification.	F.S. 377.705 NEC 110.3(b)
Abbreviations	BCAP - Broward County Administrative Provisions FBCB - Florida Building Code, Building Volume FBCEB - Florida Building Code, Existing Building Volume FBCR - Florida Building Code, Residential Volume F.S - Florida Statute FSEC - Florida Solar Energy Center NEC - National Electric Code	

Miami-Dade County
Boards of Rules and Appeals
Solar Thermal/Electric
Instructions and Recommendations

The Uniform Permit Submittal Matrix for Solar Thermal and Solar Electric Installations in the High Velocity Hurricane Zone is adopted as a "BORA Approved Guideline" establishing minimum code requirements regarding permit application submittals, thereby creating and instituting countywide uniformity. In addition:

- A.) Building Departments shall establish an individual master permit for both Solar Thermal and Solar Electric installations to which applicable subsidiary categories are to be tied. Adding additional categories to the master permit may not require an additional permit obtained by a separate contractor, but will require a separate trade review in every instance.

- B.) It is established that Certified Solar Contractors may obtain the master permit in either the Solar Thermal or Solar Electric categories. Certified or Registered Plumbing Contractors may obtain the master permit in the Solar Thermal category. Certified or Registered Electrical Contractors may obtain the master permit in the Solar Electric category. Registered Solar Contractors may obtain the master permit in the solar thermal category, restricted to residential installations only. Each of these contractors may perform all work identified in their individual scopes of work including the installation of appurtenances, apparatus, or equipment. However, such contractor shall subcontract all other work which is specified as being the work in the trade of another contractor.

- C.) Building Departments shall provide inspections of solar thermal and solar electric systems. More than one inspection may be performed during any inspection visit.

Solar Thermal

Building/Structural/Roofing – Time of Installation and Final

Plumbing – Final

Solar Electric

Building/Structural/Roofing – Time of Installation and Final

Electrical – Rough and Final

Hybrid Systems (Complete PV Panel System combined with integral solar water panels)

Building/Structural/Roofing – Time of Installation and Final

Electrical – Rough and Final

Plumbing – Final

- D.) The Board recommends Building Departments establish an inspection procedure to ensure all required inspections are completed within a specified two hour timeframe.
- E.) Recommend that Building Departments include an Owner notification on all solar thermal or solar electric permit applications, for existing structures, using substantially the language provided below:

“Installation of roof mounted photovoltaic or solar support systems typically require roof system penetrations to allow attachment to the structure which may create additional long-term roof system maintenance requirements and/or jeopardize roof system manufacturer’s warranties. Roof mounted solar systems generally require removal and reinstallation of solar panels/arrays in order to perform routine roof system maintenance, repair or replacement.”

- F.) Building Departments shall maintain accurate records regarding the type, number and location of Solar Energy installations.
- G.) Recommend and encourage Building Departments to expand access of renewable energy technology to the community by not imposing needless or excessive oversight measures and through a program of streamlined permitting and inspections.
- H.) Recommend and encourage Manufacturers to pursue optional product approval as a means of accelerating the permit approval process by ensuring a less complicated and less expensive process for consumers.
- I.) BCCO to continue the ongoing awareness program designed to ensure all certified personnel understand the process of permitting and inspecting Solar Thermal and Solar Electric installations.
- J.) BCCO will provide guidance and assistance to the Solar Energy industry, provide mediation, and assist with the BORA appeal process as necessary.