

## CASE STUDY

# Solar Panels on a Chicago Landmark Building



### The Precedent that Paves the Way

Now that engineers, officials and historians have seen it, the next solar project will be easier, faster and cheaper — that's ELPC's ROI.

**Landmark Litmus Test:** Now we know the standard by which the Landmarks Preservation Society judges solar projects.

**Permit Purview:** Now that city officials have studied this kind of project, they can examine future applications more quickly.

**ComEd Connection:** Now the utility has experience connecting small-scale solar projects in ways that protect worker safety.

### A Step-by-Step Story

When ELPC began designing its LEED Platinum office in 2009, Executive Director Howard Learner had a vision — why not put solar panels outside on the fire escape? At first, the design team assumed this was a hypothetical question. Installing solar panels is not a typical part of any office re-design; under normal circumstances, it's a wholly separate project, and adding a historic landmark building designation to the mix would truly give the project a life of its own. How much return would ELPC get on its investment of time and resources? As Learner puts it: "Someone has to go first. We didn't want solar panels just to say we had them. We wanted to pave the way so that solar would be easier and more affordable for others."

#### **Step 1: The Commission on Chicago Landmarks**

The Commission on Chicago Landmarks approves modifications to the facade of historic buildings in Chicago. The Commission was very practical and sensible in considering ELPC's solar panel project on the historic Jewelers Building. They reviewed the drawings and examined whether the solar panels would be removable, affect the building's architecture, cause irreparable changes to the terra cotta facade, or be visible from the street. ELPC's solar panels passed all of these litmus tests and received the Commission's seal of approval.

#### **Step 2: Building Management at 35 East Wacker Drive**

DUS Companies, Inc., which manages the historic Jewelers Building, has a strict

policy about the building's exterior: Tenants cannot make modifications to it. Management was concerned that if they made one exception, they'd be forced to make others. But ELPC and management had developed an important rapport during the LEED Platinum build-out and eventually convinced building management and owners that this was a very special case that would not set a dangerous precedent for other requests to modify the building's exterior.

### **Step 3: Structural Engineering**

Originally, ELPC wanted to install the solar panels on the fire escape (actually, catwalk) outside its office. But the structural engineering firm Abatangelo-Hason, Ltd., determined that would be unsafe — heavy winds could catch the panels like a kite and rip them off, posing a danger to the alleyway below. Instead, the panels would have to be installed on the building itself. This meant installing a special structure that would be welded to the main structural beam inside the building, run through the terra cotta, and hold the solar panels.

### **Step 4: Chicago's Green Permitting Program**

No one had ever proposed installing solar panels in such a manner, so the permitting process was especially important. ELPC hired consultant Burnham Nationwide, Inc. to help usher the building permit through the city's new "green permitting program."

### **Step 5: Fabrication, Installation & Connection**

Dougal Building Maintenance removed and replaced the terra cotta stones; Hoss Steel installed the structure that connected the building's infrastructure to the solar panels; Habi-Tek supervised the solar panel installation; and Concur Electric connected the panels to the electric grid and worked with ComEd to install necessary safety precautions for future work crews. General contractor Leopardo oversaw the entire project.

## **The Solar Panel Team / Decisionmakers**

#### **Architect:**

Farr & Associates

#### **Building Management:**

DUS Companies, Inc.

#### **General Contractor:**

Leopardo Companies, Inc.

#### **Commission on Chicago**

**Landmarks**

#### **Structural Engineering:**

Abatangelo-Hason, Ltd.

#### **Sub-Contractors:**

Concur Electric

#### **Permitting:**

Burnham Nationwide, Inc.

Dougal Building Maintenance

Habi-Tek

Hoss Steel

