

# Professional Roofing

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## Reroofing the Pentagon

### The Industry responds to disaster

by **Bill Good**

On Monday, Sept. 17, 2001, I received an intriguing telephone call. Patty Johnson, president of Rebuilding Together™ with Christmas in April,® told me Kimberly Francis, vice president of NRCA member Northern Virginia Roofing Co. Inc., Falls Church, Va., had called her with an interesting idea.

Francis told Johnson she and her husband, John, had been discussing what they might be able to do in response to the terrorist attacks of Sept. 11, 2001. As Francis told me in a subsequent conversation, "[John and I] looked at each other and said, 'We're in the roofing business, and what we ought to do is give the country one of its roofs back.'" Their idea was to replace the Pentagon's roof system as a gift from the industry.

Johnson's telephone call set in motion a series of events that, one week later, led to a meeting with Pentagon officials where a team of NRCA members outlined, in principle, the industry's offer. Ultimately, after a number of telephone conversations and two more meetings, Pentagon officials agreed to a plan for replacing the portion of the Pentagon's roof system that was damaged by fire resulting from the terrorist attack.

### Pentagon details

When American Airlines Flight 77 hit the Pentagon on Sept. 11, 2001, it penetrated the building's second story at a 45-degree angle and careened through the Pentagon's top three floors. The jet was carrying about 20,000 gallons (76000 L) of jet fuel, much of which was deposited on the roof. The fuel ignited and burned at a temperature of about 1,100 F (593 C).

The Pentagon has two distinct roof system types. The inner three "rings" of the building have coal-tar-pitch built-up roof systems, and the first interior ring, outer ring and five corridors that run from the center of the Pentagon to the outer ring all have slate roof systems. The slate is nailed to wood sheathing, which is attached to a concrete deck with a slope of 5-in-12 (23 degrees). The original roof system includes a two-ply underlayment that was mopped to the deck when it was installed in 1943. There are no fire stops in the system.

When the jet fuel ignited, it quickly spread through much of the wood sheathing and destroyed the roof system along one of the Pentagon's five corridors, as well as much of the roof system on one section of the innermost ring and one section of the outer ring. In all, about 40,000 square feet (3600 m<sup>2</sup>) of the slate roof system was damaged beyond repair. After the explosion, firefighters poured more than 6 million gallons (22.8 million L) of water on the roof.

According to one Pentagon official, "The roof did its job: It shed the water perfectly" while the fire spread through the sheathing beneath it. Firefighters apparently didn't know the roof system incorporated wood sheathing and reportedly assumed insulation was burning. Only

they broke through the slate did the fire stop spreading.

The part of the roof system that was damaged is over what Pentagon officials refer to as Wedge II (Wedge I is where the plane hit the building). Wedge II remains structurally intact, but Pentagon officials have not been able to return to work because of the roof system damage.

Taking all this into account, it seemed the best way for the roofing industry to be of assistance would be to offer to replace the 40,000 square feet (3600 m<sup>2</sup>) of roof area that was damaged by fire. Working with the roof system designer and general contractor, NRCA agreed to provide as much labor and materials to the project as we could gather; these be credited against the contract issued to the roofing contracting company.

## Finding contributors

The first and most critical step in this effort was to identify a roofing contracting company that could undertake a project of this magnitude and would be willing to work according to the complicated arrangement.

James Myers Co. Inc., Beltsville, Md., was the perfect choice—the company had worked on the Pentagon's roof system previously, is familiar with government procurement rules and has experienced slaters on its payroll. When I talked with the company's president, Jim Myers, it took him only 10 minutes to agree to take on the job. And the company agreed to provide a project manager at no cost, as well as make a substantial financial contribution at the job's conclusion.

Next, we needed to determine whether we could secure enough material and equipment contributions to make the project feasible. The new roof system will have a Grace Ice and Water Shield; wood sheathing; a 30-pound (14-kg) felt underlayment; new slate; and a substantial amount of sheet copper and terne-coated stainless steel. NRCA's staff and I have spoken to more than 20 manufacturers and distributors and asked for donations or significant discounts. We still are waiting to hear our first "no." In fact, the response has been overwhelmingly enthusiastic and positive, and some contributions have been staggering.

For example, Protective Roofing Products Ltd., a Canadian family-owned guardrail manufacturer, makes a product that meets the job's needs perfectly. The company offered a \$20,000 discount on the guardrails for the job and flew staff to Washington, D.C., to make sure the guardrails were installed properly.

Through Rebuilding Together with Christmas in April, we were put in touch with The Home Depot,® Atlanta. The Home Depot responded by donating all the lumber for the sheathing—value approaching \$100,000.

In addition, the Copper Development Association arranged for a substantial amount of copper sheet to be provided. Follansbee Steel, Follansbee, W. Va., has agreed to donate the terne-coated stainless steel. W.R. Grace & Co., Cambridge, Mass., donated the Ice and Water Shield and sent employees to the job site to help with installation problems.

And Garlock Equipment Co., Plymouth, Minn., provided a warning-line system; Garlock President Dave Nelson simply said, "Tell me what you need, and I'll get it to you."

Warrior Roofing Manufacturing Inc., Tuscaloosa, Ala., donated the underlayment. Evergreen Slate Co. LLC, Granville, N.Y., offered a significant discount on all the slate. Brad Segal, president of Bradco Supply Corp., Avenel, N.J., called me to say he thought his company would be more helpful by contributing financially—and a substantial check followed.

We also asked NRCA members to consider volunteering labor, especially for carpentry and slate work. The response has been fantastic, and volunteer workers began work in February. They are staying at a Marriott located near the Pentagon; the Host Marriott Corp., Bethesda, Md., provided workers with significant room-rate discounts for the project's duration.

Requests to volunteer have come from throughout the nation and world. For example, one member called from northern Wisconsin and told me she owns a small roofing company with

her husband and son. She said if her husband and son could work on the Pentagon during winter when business is slow, they would go to Virginia for as long as they were needed—all they required was a place to park their recreation vehicle. (They are at work on the job site at press time.) Another member called from California and insisted he not be left off the labor list. It was, he said, his opportunity to show the terrorists Americans' resolve.

NRCA's lone member in Ghana, Africa, e-mailed me and reported the local community had taken up a collection to pay travel and housing expenses for a roofing worker to travel to the Pentagon. We also heard from members in Japan, Spain, Mexico and Canada offering to help with either labor or materials.

We also asked members who were not able to contribute their labor to consider making financial contributions to offset some of the project's costs. And the checks started coming in—mostly for \$100 or \$500—but many for \$1,000 and one for \$10,000 from Centimark Corp., Canonsburg, Pa., and its chief executive officer, Ed Dunlap.

At press time, more than \$150,000 has been collected, and the total value of donations—materials, equipment, labor and money—is well in excess of \$500,000. For a complete list of organizations that contributed to the NRCA Pentagon Project as of press time, see "[Noble deeds](#)," page 16.

Pentagon officials have not only been supportive of this project, but they have worked hard to ensure our plan is carried out smoothly. We are especially indebted to Richard Marcey, repair and alteration program manager for the Pentagon's Facilities Department, and Linda Luczak, the contracting officer in charge of the project.

The logistics have been complicated. Security clearance, of course, is required for everyone needing access to the roof, and an exterior stair tower was constructed so workers could access the roof system without having to go through the Pentagon's interior.

Managing a volunteer work force also is challenging. But thanks to the efforts of Project Manager Richard Myers of James Myers, everything is working smoothly. The project falls under the jurisdiction of the Davis-Bacon Act, which requires certified payroll records to be submitted weekly, as well as compliance with other federal contracting rules.

And the job is subject to shutdowns, such as when the memorial service was held at the Pentagon's entrance.

## An amazing story

As the project nears completion, NRCA has been asked to tell the story of the roofing industry's response to the terrorist attacks as word of the Pentagon's new roof system has spread.

In December 2001, we were invited to a meeting with Rep. Nydia Velázquez (D-N.Y.), the ranking minority member of the House Small Business Committee. At the meeting's conclusion, Velázquez asked her public relations staff members to help tell our story to the national news media as an example of how the small-business community responded to the terrorist attacks and how we, quite literally, helped the country rebuild.

Not long after that, I had the opportunity to participate in a press conference at the National Press Club in Washington, D.C., and we have been contacted by media as diverse as a Minneapolis business journal and *Forbes Small Business* magazine. We also have been contacted by CBS, NBC and CNN, as well as the "Today Show" and "Good Morning America." Ours is a compelling story that has hit a nerve, and it is a story that tells itself.

With many members facing uncertainty in their businesses and with the country's economic outlook still unclear, it is tempting to become pessimistic—or cynical. To the worriers, I say that though the state of the industry may be unsteady, its spirit is alive and well—and this well may be our proudest moment.

**Editor's note:** This article is the first in a three-part series devoted to the NRCA Pentagon Project. For updates about the project and donation information, visit NRCA's Web site at

[www.nrca.net](http://www.nrca.net). NRCA's photos of the project for its Web site and Professional Roofing magazine are pending Pentagon approval.

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*Bill Good is NRCA's executive vice president.*

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## Noble Deeds

### Financial donations

A & A Roofing Co. Inc.  
ABC Supply Co. Inc.  
Adams & Sons Ltd.  
Advantage Roofing & Construction  
Alabama Roofing & Sheet Metal Inc.  
All-Star Roofing Inc.  
A & M Roofing & Sheet Metal Co. Inc.  
Amtech Roofing Consultants Inc.  
A. Poletto & Associates Inc.  
Arnold & Associates Inc.  
Associates Roofing & Waterproofing Inc.  
Baker Roofing Co.  
Beldon Roofing Co.  
Berger Brothers Co.  
B & G Roofing and Sheet Metal Inc.  
Bone Roofing Supply Inc.  
Boston Roofing Contractors Association  
Boulder Roofing Inc.  
Bradco Supply Corp.  
The Bri-Den Co. Inc.  
Broda's Commercial Roofing Inc.  
Buttweiler's Do-All Inc.  
Carlisle SynTec Inc.  
Centimark Corp.  
CertainTeed Corp.  
Chilson Brothers Inc.  
Clark Roofing Co.  
C.N.S. Roofing Inc.  
Collis Roofing Inc.  
Commercial Roofing & Sheet Metal Co. Inc.  
Conklin Co. Inc.  
Consolidated Enterprises Inc.  
Corporate Roofing Supply Inc.  
Crawford Maintenance & Inspection Service  
Crowther Roofing & Sheet Metal of Florida  
CSR Roofing Contractors  
D & D Roofing Inc.  
Ditmars Roofing & Sheetmetal Contractors Inc.  
Dixie Roofing Inc.  
Done Right Roofing & Gutters  
Economic Roofing Co. Inc.  
Edwards Roofing Co. Inc.  
E.D. White Corp. t/a Tidewater Roofing  
Elite Roofing & Contractors Ltd.  
Enterprise Roofing Service Inc.  
Evans Service Co. Inc.  
F & F Roofing Co. Inc.  
F.J. Dahill Co. Inc.  
Frederic Roofing & Sheet Metal Co. Inc.

Gallo Roofing  
Gooding Delaware Inc.  
Greater Buffalo Roofing & Sheet Metal Contractor  
H-E-C Roofing Co.  
Henderson-Johnson Co. Inc.  
Huebert Products  
Independent Roofing & Siding Co.  
Insulating Coatings Corp.  
J.L. Adler Roofing & Sheet Metal Inc.  
John A. Dalsin & Son Inc.  
Johns Manville Roofing Systems  
Jon Wickers Co. Inc.  
J.S. Wagner Co. Inc.  
JU Contracting  
Karnak Corp.  
Kaw Roofing & Sheet Metal Inc.  
Kodiak Roofing & Waterproofing Co.  
Korellis Roofing Inc.  
Kreiling Roofing Co.  
Lamb Construction Group Inc.  
La Porte Independent School District  
Latham Co. Inc.  
Lee's Bi-State Roofing Co.  
L.E. Schwartz & Son Inc.  
Lydick-Hooks Roofing Co. of Abilene Inc.  
Mader Roofing Co. Inc.  
The Markell Co. of Wisconsin  
Mark S. Windel Contractor LLC  
Marshall Roofing & Sheet Metal Co. Inc.  
Marton Roofing Industries Ltd.  
McEnany Roofing Inc.  
McGarrahan Roofing Co.  
MFM Building Products Corp.  
Mid-South Roof Systems  
Minnesota Building Contractors  
Morlife Co.  
The Mountain Co.  
M & S Roofing Inc.  
North Coast Commercial Roofing Systems Inc.  
North/East Roofing Contractors Association  
O'Lyn Contractors Inc.  
Owen Henry Contracting Inc.  
Pacific Supply  
Palmer Asphalt Co.  
Peak Roofing Inc.  
Performance Roof Systems Inc.  
Peterson Brothers Roofing & Construction Inc.  
Progressive Roofing Inc.  
R.D. Bean Inc.  
R.E. Forshee Co. Inc.  
Reliable Roofing Maintenance  
R.H. Tamlyn & Sons Inc.  
Roofing Industry Fund of Minnesota Inc.  
Roofing Technology Inc.  
Roof Service  
Roof Tech Inc.  
R & R Roofing Inc.  
Ruff Roofers Inc.  
Schreiber Corp.  
S.D. Carruthers Sons Inc.  
Seaback Roofing & Restoration  
Shiner Roofing Inc.  
Skyline Roofing Co. Inc.  
Smart Roofing Inc.

Sprick Roofing Co. Inc.  
Springer-Peterson Roofing & Sheet Metal  
Star Roofing  
Texas Roofing Co.  
Triangle Roofing Inc.  
Versico Inc.  
Warren Roofing & Insulating Co.  
Watkins Roofing Inc.  
West Georgia Roofing Inc.  
Wolfe Roofing & Sheet Metal Inc.  
The Zero-Breese Co.

**Material donations**

Cor-A-Vent Inc.  
Evergreen Slate Co. LLC  
Follansbee Steel  
Garlock Equipment Co.  
The Home Depot®  
Hussey Copper Ltd.  
Karnak Corp.  
N.B. Handy Co.  
Olympic Fasteners Division of Olympic Manufacturing Group Inc.  
Powers Fasteners Inc.  
Protective Roofing Products Ltd.  
Residence Inn Arlington—Pentagon  
Simplex Nails & Fasteners  
Swan Secure Products Inc.  
Warrior Roofing Manufacturing  
W.R. Grace & Co.

**Labor donations**

Curran Roofing Co. Inc.  
Donald M. Miller Roofing Co.  
Enterprise Roofing Service Inc.  
Formation Roofing & Sheet Metal Inc.  
Francis M. De Simone & Associates  
Gem City Enterprises  
James Myers Co. Inc.  
Northern Virginia Roofing Co. Inc.  
Rafoth Sheet Metal Inc.  
Revelation Roofing  
Simon Roofing Co. LLC  
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Solar Sheetmetal & Pomazi Roofing LLC  
Two Thumbs Up Roofing  
W/S Roofing Co.

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