EIGHT-PENNY NEWS

VOLUME 13 • NUMBER 11 AUGUST 1995

Florida Wind Standards: Bracing for the Big Blow

by John Wagner

Since Hurricane Andrew ripped across southern Florida in 1992, causing $25 billion in insured losses, code bodies regulating Florida's hurricane areas — Dade and Broward County Codes, the Southern Florida Building Code (SFBC), and Southern Building Code Congress International (SBCCI) — have been reworking their building standards. Tougher standards have spawned new breeds of high-performance windows, doors, and shutters that not only promise to reduce future storm losses, but are also drawing wide interest from consumers and code bodies nationwide. In fact, BOCA's 1996 code will include provisions for windows and doors that meet Florida's impact standards.

Windows and shutters approved by Dade County have to resist the impact of a 2x4 launched from a cannon.

Tougher glass. The impact-resistant glass in the new generation of windows is made with two lites of 1/8- to 1/4-inch glass, laminated with a PVB (polyvinyl butryal) film between. A window made with the new glass behaves like a car windshield: If the glass breaks from windborne debris, the film holds it together, and an advanced silicone sealant method holds the broken glass in the frame. This has been tested through as many as 9,000 test cycles, with simulated winds of over 80 mph (74 mph is hurricane strength). The windows must also withstand testing from a cannon that fires a 2x4 at the window at a speed of up to 34 mph, and flings gravel at up to 88 mph.

This type of glass also has many good qualities that consumers and insurance companies alike find attractive: superior strength against burglary breakage, superior soundproofing, and a 99% UV blockage capability.

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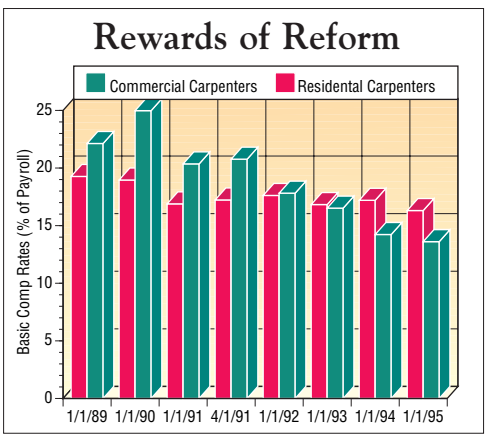
Oregon's Workers Comp Reform Is Still a Model

by Kathleen O'Brien

A little over five years ago, Oregon faced what was then termed a "workers compensation crisis." The State Accident Insurance Fund Corporation (SAIF) the state's largest workers compensation provider — threatened to cancel 7,000 policies for high-risk businesses, and to raise premiums for as many as 20,000 other firms. Without those changes, SAIF claimed, rising costs might bankrupt the system.

In an emergency session, the legislature approved a package of comp reforms crafted by a working group of employer, labor, and insurance industry representatives. In the first year after the reform was passed, rates paid by employers dropped 12.2%. Today, the reform continues to pay off in fewer injuries, fewer questionable claims, and continued premium cuts.

Reducing risk was central to the reform strategy. At the core of the program was a requirement for safety committees at businesses employing 11 or more employees, or those with a high injury rate. The committees, which included both employees and management, were to inspect job sites for hazards, evaluate safety and health policies and procedures, and make recommendations for changes. They also were required to investigate and report on accidents.



Workers comp rates in Oregon have shown a sharp decline as a result of state reforms. Commercial builders have seen the biggest drop because of their more intensive safety programs.

To cut insurance payouts, the reform package included an emphasis on businesses getting injured workers back to work as soon as possible — even if on a restricted activity basis.

For their part, insurers were required to provide a speedy and equitable response to serious and highly provable injuries, such as loss of limb. At the same time, insurers got more leeway in settling less serious or less "provable" claims — such as one based on a chronic backache or emotional stress. In practice, this has

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STATE BY STATE

Massachusetts. State officials underestimated the financial impact of new septic regs, a report in the Boston *Globe* says. Dean Spence, acting head of the Department of Environmental Protection, reportedly told the *Globe* that the number of failed systems and the costs of repairs had exceeded his predictions. Spence now expects home sellers to pay $20 million annually to repair failed systems under the new law.

Rhode Island. The Rhode Island Builders Association (RIBA) has filed suit against the state Department of Environmental Management (DEM), claiming that DEM has exceeded the authority given to it by the state's General Assembly. RIBA says DEM has held up building projects because of wetlands rules the agency has arbitrarily created. RIBA also objects to what it calls "extravagant fees" for permit applications.

New York. Construction workers on Long Island may be at higher risk for Lyme disease, a study by the State University of New York (Stony Brook) has found. Deer ticks carry the disease, which can permanently damage the nervous system and joints. Doctors advise people who work outside in areas where the disease is prevalent, including the Northeast and Wisconsin, to learn about preventive measures such as tick repellent. For information on Lyme disease, call 516/444-8425.

EMF Fears Unfounded, Say Nation's Physicists

Since concern over the suggested health effects of electromagnetic fields, or EMFs, was first widely reported in the late 1980s, attempts to avoid EMF exposure have cost the nation billions of dollars, according to a report from the 43,000-member American Physical Society (APS). In addition, the organization says, fears of EMF risks have reduced the market value of many properties. But in a policy statement, the physicists' association said that the threat has "no persuasive scientific basis."

The APS report is based on a comprehensive literature review by Dr. David Hafemeister, a physicist at California Polytechnic State University in San Luis Obispo, Calif. Hafemeister reviewed the more than 1,000 published scientific studies of EMFs, and also interviewed specialists in the field. Early studies found only a weak statistical association between cancer and EMF exposure, Hafemeister reported, and most later studies have detected no consistent link.

Beyond that, the APS statement noted, no plausible biological mechanism by which EMFs might cause cancer has been put forward, and controlled laboratory studies have not identified the fields as a cancer cause.

Low-energy fields exist around a wide variety of electrical power sources, including kitchen appliances, electrical panels, power transmission lines, and transformers. The Earth also has its own natural electromagnetic field, which the scientists point out is hundreds of times more powerful than any manmade fields. They also note that natural body heat and electricity exert a much more powerful force on human cell molecules than would a field caused by a nearby power line.

For more information, contact: American Physical Society, 529 14th St. NW, Suite 1050, Washington, DC 20045; 202/662-8700. □

Cancer fears linked to power lines have hurt the value of many homes, builders report.

Woodpeckers Strike Again: NASA Shuttle Disabled

Attacks by Florida woodpeckers on a large foam mockup of the space shuttle ("South Florida Condominium is for the Birds," *Eight-Penny News*, 7/94) were apparently just a dress rehearsal for the real thing. In June, woodpeckers decided to hammer on the real shuttle's external fuel tanks, which are insulated with a similar type of foam. The shuttle takeoff was delayed for several days while crews repaired the damage.

According to a Florida Audubon Society expert, the woodpeckers hammer on a variety of objects, including power transformers and wooden buildings, because of the sound it makes: The behavior is part of their courtship ritual. The birds are capable of causing extensive damage to foam-insulated buildings, but when mating season is over, the pounding activity generally dies down.

To scare the amorous woodpeckers away, the bird watchers recommend deploying one or more large floating balloons with big eyes painted on them, available from gardening catalogs. In theory, the balloons are supposed to remind the woodpeckers of a large bird of prey — but then again, the space shuttle does not appear to remind them of anything dangerous, in spite of its somewhat bird-like shape. □

NASA maintenance crews deployed "Scare-Eye" balloons and repaired damage with duct tape after woodpeckers attacked the space shuttle's foam-insulated fuel tanks.

COURTESY OF NASA

Coming to a Town Near You: Generic I-Joists?

After decades of use, wood trusses have become commonplace, produced in hundreds of local plants for nearby building markets. But wood I-joists, originally patented by Truss Joist International, remained a centrally produced, big-company product even after the patent expired — only a major corporation could afford the investment required to manufacture them.

That situation is likely to change, however, if a new concept introduced by Canada's Nascor Inc. takes off. The company is producing and selling complete turnkey plants to produce wood I-joists. The package price of $195,000 includes the equipment to manufacture two basic types of I-joist, as well as testing machines to ensure rigorous quality control.

Nascor I-joists produced by local truss plants are expected to undersell engineered I-joists from the big manufacturers.

Nascor representative Roger Wiewel says that with these small-scale plants coming online, the price of 10- and 12-inch I-joists will be coming down. "We're killing the big producers on price," says Wiewel. "They've had the local builders over a barrel for years, but that's going to change." According to Wiewel, a Nascor plant can produce 10-inch-deep wood I-joists for about 61¢ a linear foot. "The retail guys are paying $2 a foot for that product from the big producers," he says. The generic Nascor I-joist will undersell sawn stock in some areas, Wiewel says, although he notes that the price of sawn lumber has been dropping recently.

Nascor supplies its franchises with OSB web stock produced by Weyerhauser, the same company that supplies most big I-joist makers. The flanges for the Nascor joists can be made with No. 2 or better SPF obtained from any reliable source. To ensure consistent quality in the finished product, Nascor has contracted with Warnock-Hersey to provide third-party quality auditing: The independent testing organization visits each plant monthly to test sample products and inspect quality-control records.

Since Nascor received code approval for its 10- and 12-inch I-joists this spring, plants have started up in three U.S. states, and are planned in eight more. In most areas, Nascor plans to license only one plant per state to avoid oversaturating the market. But Wiewel says the days of the I-joist as a specialty product are ending. "We think this will become a commodity product." For information, contact Nascor Inc. (800/792-9555) or GE Fabricators (609/935-1830). □

FROM WHAT WE GATHER

Live load calculations can get complex, as engineers discovered when they were called in to double-check the design of a new $148 million convention center in Charlotte, N.C. A report in the Charlotte *Business Journal* says the center's architects, The FWA Group, became concerned when Mary Kay Cosmetics salespeople holding their annual convention made the ballroom floor shake while doing the bunny hop en masse. FWA has suggested that rhythmic dancing be restricted in the ballroom.

Was your senior project worth $139,000? Dr. Ross Poore, principal of Northridge High School in Layton, Utah, paid that price for a home built by his school's applied technology class. Most Utah school districts are home builders, says a report in May 15th's *Salt Lake Tribune*, with some homes selling for more than $232,000. Teachers say the kids benefit from doing real work, and profits are plowed back into future projects. As for principal Poore, he says he's proud of his new home.

If you want to learn infrared imaging, you might want to contact John Snell and Associates (P.O. Box 6, Montpelier, VT 05601; 800/636-9820). Snell offers 3½-day hands-on courses in which participants use infrared imaging equipment to inspect buildings, flat roofs, and electrical and steam systems. The courses cost from $1,150 to $1,350 and will be offered this year in St. Louis, Baltimore, Dallas, and Atlanta.

The boom in do-it-yourself construction is good business for emergency room doctors, reports the National Safety Council. Accidents caused by home workshop saws hurt 94,000 handy homeowners in 1991, up 54% from 60,000 four years earlier. Accidents involving hand tools rose 34% to 118,799 in the same period, the council said. Hey, people, hire a carpenter.

If you're thinking of building houses in Berlin, Germany, an old Russian army base would make a great location, says the U.S. Embassy Office Berlin. The embassy is helping to develop markets for American manufactured homes in Germany, where the lack of affordable housing is a major problem. The embassy says Berlin needs 90,000 new homes, and points out that the large abandoned bases "are not encumbered by prior title claims." For information, contact Martin Jetter at the U.S. Embassy in Berlin (PSC 120, Box 1000, APO AE 09265; dial 011-49-30-238-5174).

Next year's annual conference of the Northeast Sustainable Energy Association (NESEA) promises to break new ground, says conference organizer Paul Lipke. In addition to the Quality Building Conference that NESEA produces each year for environmental and energy-conscious builders, the group will simultaneously present two new forums. RENEW '96 will feature a program of discussions on renewable energy sources, and the 1st International Solar Electric Buildings Conference will release the results of a five-year, fifteen-nation effort by the International Energy Agency to develop integrated photovoltaic roof and wall systems. For information on the March 4 to 6 conference at Boston's Copley Plaza, call 413/774-6051.

Florida Wind,
continued

Superior shutters. Some materials have shown an ability to greatly surpass the demands of the Dade standards. For instance, Extech Inc., of Ft. Lauderdale, Fla. (305/776-2232), has developed polycarbonate resin overglazing systems that offer impact resistance superior to steel or aluminum shutters. After meeting Dade standards by withstanding air pressures of 150 psf (equivalent to a 220-mph wind), the company asked the testing lab to test their 4' x 6'8" window to failure. But the lab was unable to destroy the window, says Extech, because the material withstood the highest pressure the lab's equipment would generate: 400 psf. Extech says its polycarbonate material also stood up to the impact of a 9-pound 2x4 traveling at 75 mph. And unlike metal shutters, the polycarbonate versions allow light to pass through, so they can be left in place continuously.

Dade County has by all accounts the nation's toughest testing regimen. As many as 600 new products (mostly windows, doors, and shutters, but also roof tiles, shingles, and plumbing) have been submitted for Dade's approval.

And although these products are designed to specific performance standards stemming from Florida's hurricane experience, they are finding eager consumers elsewhere, for reasons including security and soundproofing. One manufacturer who doesn't even distribute in Florida submitted his products so he could market them as "Dade County Approved." Requests for lists of approved products have come in from Texas, California, New York, Boston, the Caribbean, and all along the East Coast.

Why new standards? An effort to reduce future claim losses explains much of the motivation behind the push for tougher codes. State Farm Insurance estimated that damage from Andrew could have been reduced by 40% if exterior windows and doors had been "impact resistant." During the hurricane, windows or doors destroyed by wind or flying debris allowed the rain to soak interiors and damage homeowners' belongings, and sudden pressure changes lifted off roofs and blew out walls.

Creating the new code. As William Smith, of Glazing Consultants Inc. in Palm Beach Gardens, Fla., explains it, the new performance standards were created by a unique, informal alliance among manufacturers, code bodies, and the insurers. "They worked together to foster the nation's leading impact-resistant standards," says Smith. "It was something we've never seen before."

After Andrew, the Dade County code bodies put manufacturers on notice that by September 1994, all windows, doors, and shutters had to meet new hurricane-level impact-resistant standards. Insurance companies also demanded tougher overall standards, and added deductible discount incentives and lower premiums for new homes or retrofits that included the Dade-approved products. Manufacturers were resistant at first to developing what they thought were region-specific products, but eventually they engineered products that answered the call.

The Dade County list of code-approved products is updated every two weeks. For a current list of products, call the Dade County Building Code Compliance Department at 305/375-2901. □

Comp Reform,
continued

made it harder for someone with a vague complaint to collect money from the system for extended periods, but workers with clear physical injuries receive much higher weekly benefits now than before the reforms were passed.

In addition, Oregon insurance agencies are required to provide employers with free consultation on improving safety practices.

Builders benefit. Oregon's construction industry has been a leader in improving worker safety, according to Tom Towslee of SAIF. Oregon builders, like most builders, would prefer not to be regulated; but industry members agree that the increased attention to safety has paid off in lower premiums and reduced lost hours for their businesses.

Tom Kelly, of Neil/Kelly Remodeling, the largest remodeling employer in Oregon, with 25 carpenters and 12 cabinetmakers, says high premiums had already begun to make him take a look at improving job-site safety prior to the reform in 1990. But since reform, the company has seen significantly fewer injuries. "We pay half of what we used to pay in insurance premiums," says Kelly. He says the company works closely with the insurance representative and exceeds minimum safety requirements.

Smaller builders have also benefitted, according to Dave Kaiser of Contractors Insurance, the insurance provider for the Oregon Home Builders Association. Kaiser believes that smaller builders' objections to return-to-work programs are diminishing as employers realize that the programs lower premiums over the long term, while workers on light duty can provide short-term value by taking care of tasks like tool inventories that might not otherwise be done.

Jan Wagner of Oregon-OSHA agrees. She says beefed up OSHA enforcement and support services are helping the building industry cut its premiums.

Comp cuts continue. Premium rates are adjusted for industry groups each year, based on the previous year's loss experience. For 1995, the rate was cut for construction contracting by 3.8%, compared with manufacturing, which increased 1.1%, or office and clerical, which also increased. The construction industry is monitored closely because it is considered more dangerous than others and has more serious injuries.

Labor feels left out. In general, employers, government, and insurance providers seem to be content with the results of the reform package. One dissatisfied voice, however, is organized labor, who participated actively in developing and passing the reform package. Disappointed labor leaders are now complaining that the $1 billion savings accrued by employers in the last five years due to reduced premiums has not been shared with employees. And they point to the low benefits levels for permanent partial disabilities (nationally Oregon falls in the bottom half for these type of payments). A Labor Management Advisory Committee set up by the insurance department when the reform act was passed is now scheduled to tackle this issue. □

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