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Builders Split Over Model Energy Code

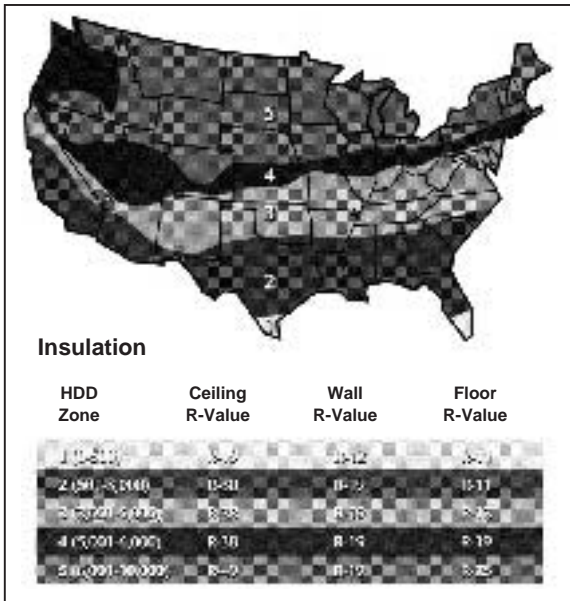
Since its publication three years ago, the 1989 Model Energy Code (MEC) has become the most prominent energy code in the United States. It is referenced, as either a mandatory or suggested set of guidelines, by at least 17 states, many localities, and two of the three main regional codes — the western states' Uniform Building Code and the southern states' Standard Building Code. And at least one piece of proposed federal legislation has offered the MEC as a mandatory national energy code.

CABO (Council of American Building Officials) will be coming out with another version this year (the code is updated every three years), and as they finalize it, the 1989 MEC stands in the midst of a serious debate. Energy-efficiency advocates quote studies showing that, if applied nationally, the code would:

- save enough energy in one year to serve up to 70,000 households
- cut home-owning costs and provide payback of investment within ten years
- reduce air pollution and other environmental side effects of energy use

Some builders have also welcomed the MEC's success, seeing it as an overdue step toward making homes less wasteful.

But other builders, including many who build energy-efficient homes, say the code is too expensive, too unwieldy, and misdirected. These builders are



Builders choosing to meet the 1989 Model Energy Code the easy way can do so by meeting the minimum insulation standards specified in this map and chart. Other approaches allow builders to trade off between different insulation and hvac components, providing the overall energy use of the house remains below a certain level. But critics say figuring the trade-offs is too complicated, making the code unwieldy and subject to misinterpretation by builders or code officials.

putting up an increasingly organized resistance to the code, even while suggesting modifications to make it more workable.

The most vocal critic of the 1989 MEC has been the National Association of Home Builders (NAHB). Ron Nickson, NAHB director of energy and home environment, says the cost of complying with the 1989 code is about \$1,000 to \$3,000 higher than that of complying with the less stringent 1986 code. The NAHB and others worry that such cost increases could squeeze many buyers out of the market.

From a builder's point of view, however, critics say the

biggest problem with the code is figuring out how to meet it. Ron Nickson says the code's three compliance options are so ambiguous that "you can't figure out how to comply with the thing."

The MEC provides three different ways to comply:

- by "systems analysis," in which the planned building must be shown by energy analysis to meet certain energy consumption limits;
- by "component performance," in which the builder can trade off the performance of various insulation components and heating and

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When the Check Is Late

Extracting payments from a customer who, for whatever reason, won't pay, is something of an art. Here are a few tricks adapted from the book *Business Confidential* (Boardroom Books, 1987):

- Make calls early in the week. Clients who promise on Friday to pay on Mon-

day often "forget" over the weekend.

- If the client is a company, speak to the person who signs the checks. Don't waste your time with other employees.
- If your clients are out, ask when they are expected to return and call back, again and again, until you reach them.
- Give the client a chance to explain. Sometimes there

are valid reasons for late payment. If this is the case, encourage the client to commit to a partial payment

- Use the "embarrassing pause": Identify your company to your client and say that the purpose of the call is to ask about the overdue account. Then say nothing further, no matter how long it takes. Usually the client will start apologizing and promise to pay. □

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Cutting It in the '90s: Walt's Essentials

Every new decade brings a slew of talk about how things will be different now. Most of this is poppycock.

Remodeling, however, is an industry that is truly seeing profound changes in the 1990s. For one thing, it has grown, and now accounts for over half the residential construction spending in the United States. As it has grown, more new-home builders have moved in, including some very large companies. At the same time, consumers have grown more cost-conscious, while retaining their high expectations of quality and service.

It all adds up, says industry consultant Walt Stoeppelwerth, to a newly competitive environment in which remodelers will have to be increasingly disciplined and organized to thrive. At the NAHB Remodelers Show in Pittsburgh in early November, Stoeppelwerth outlined the essentials of what remodelers need to do:

- "Know and practice the economics of the business," says Stoeppelwerth. This means using at least a 50% markup. To do this, he says, you will need to make your playing field a different one than that of the "tailgate" contractor, by being professional in your work, appearance, and client relations.
- Know your job costs. "The days of working out of your head are over," says Stoeppelwerth. Keeping accurate, current job costs is the only way to ensure accurate estimates, which is the only way to ensure a profit.
- Learn to estimate well.
- Have a marketing plan. "This is probably the biggest thing that's

STATE BY STATE

North Carolina: Last October, for the first time in its 20-year history, the federal Occupational Safety and Health Administration (OSHA) took control of a state OSHA when it asserted "concurrent jurisdiction" over the North Carolina OSHA. The move came shortly after a fire in a North Carolina poultry-processing plant killed 25 employees. Many of the deaths were attributed to blatant violations of OSHA standards. Federal inspectors were immediately sent out across North Carolina. In addition, the federal agency began handling all new safety-related complaints and investigating all fatalities.

Louisiana: Voters approved a constitutional amendment authorizing the state to establish a state-run, nonprofit, mutual workers-compensation insurance corporation. The corporation is expected to bring some stability to workers comp rates in the state, where, as in many other states, premiums have recently undergone radical increases as private insurers have sought to protect their profits and cover rising costs. A similar system in Arizona has reduced premiums there. To participate in the new Louisiana system, which will begin operating in October 1992, employers will have to have a written safety program.

Arkansas: The state recently enacted legislation creating the Heating, Ventilation, Air Conditioning and Refrigeration Licensing Board, which, as of January 1, 1992, requires the licensing of anyone engaged in hvac work.

Maryland: The state recently became one of several that do not require an architect's approval for the alteration, construction, design, or repair of single- and two-family houses. □

What Builders Worry About

The NAHB's latest "Critical and Emerging Issues" survey found economic and environmental concerns still topping the list of things builders worry about. Regulations dominated both lists, with economic issues taking the balance.

Wetlands topped the list of present concerns, while another environmental issue, solid waste, topped the list of emerging concerns. Among

emerging issues, two new issues, rising lumber prices and labor quality and availability, showed for the first time. Safety issues also emerged for the first time, perhaps reflecting concern over higher Occupational Safety and Health Administration fines.

The percentages refer to the percentage of builders rating the issue as critical or emerging. □

Top Ten Critical Issues:

1. Wetlands 62%
2. Construction Financing 62%
3. Workers' Compensation 50%
4. Development Costs 44%
5. Growth/No Growth Attitudes 41%
6. Affordable Housing 39%
7. Stormwater Management Permits 38%
8. Development Approval Process 38%
9. Impact Fees/Development Exactions 34%
10. Infrastructure Financing (General) 32%

Top Ten Emerging Issues:

1. Solid Waste 43%
2. Increasing Lumber Prices 39%
3. Labor Availability & Quality 37%
4. Groundwater Protection 35%
5. OSHA Inspections 34%
6. Safety & Health Legislation 34%
7. Property Taxes 32%
8. Real Estate Transfer Taxes 32%
9. Availability of Sewers & Water 30%
10. Codes Regulation 29%

Maryland Passes Tough Tree Act

While many communities have enacted tree protection ordinances, the Maryland Forest Conservation Act is the first statewide legislation to impose strict and costly regulations on residential and commercial construction, according to *Nation's Building News*, a publication of the National Association of Home Builders.

Fast-paced development in Maryland is expected to cost the state an estimated 300,000 acres of trees within the next 30 years. The Forest Conservation Act attempts to mitigate this by establishing "forest conservation thresholds" based on the percentage of forest cover at a given development site. When the threshold falls below a certain level, developers must replant enough trees to bring it back up to the required threshold.

The regulations will become even stricter after December 31, 1992. Starting then, developers applying for subdivision approval, grading, or sediment control permits will have to provide a special forestry-impact report prepared by a

forester, landscape architect, or other professional. After submitting the report to the state's department of natural resources, the developer must follow up with a plan detailing forest disturbances, reforestation (planting trees to replace those removed during development), afforestation (planting trees where none existed previously), and a two-year management agreement to ensure the planted trees' survival.

If the reforestation cannot be accomplished on the site, developers must plant trees off-site. If this is impractical, the developer must contribute to the state's forest conservation fund.

Most builders recognize that preserving the trees on a site improves a home's marketability. But Maryland builders worry that in some cases, developers will be required to replant land that previous owners cleared. The Maryland Builders Association estimates that such tree planting could boost average single-family home prices by \$4,000. □

This Code Officer Has No Soul

Does your code officer seem to have the emotions of a computer? In Vancouver, British Columbia, you can actually try your luck with the real thing. Last year, that coastal city became the

first city to use a computer program using "artificial intelligence" that reviews building plans to make sure they comply with the city's building bylaws.

The program uses a series

What You Pay For Hardwood



Retail lumber store: \$2.91/bf

Retail markup: 92¢/bf

Ripping 1 edge: 15¢/bf

Surfacing 2 sides: 15¢/bf

Wholesale yard: \$1.69/bf

Wholesaler's markup: 27¢/bf

Transportation: 8¢/bf

Shrinkage: 14¢/bf

Sawmill: \$1.20/bf

Sawmill markup: 51¢/bf

Kiln drying: 15¢/bf

Direct cost of sawing logs into lumber: 19¢/bf

Cost of logs: 35¢/bf

This graph shows the price breakdown for a typical board foot of red oak at your retail lumber store. The cost of logs is only about 35¢ per board foot; roughly that much again is spent on sawing and drying it. After that, markups and shrinkage, processing, handling, and transportation costs add another \$2.20. Source: *Woodshop News*.

Ten Tips to Increase Profits

- Size rooms for efficient material use. For example, 12-foot rooms are more material efficient than 12-foot, 6-inch rooms.
 - If theft is not a problem in the area, arrange with the lumber company to deliver the whole house package on one large truck.
 - You do not have to be a big volume builder to get big volume prices from a building supply company. Order windows, doors, wallboard, lumber, shingles, and other materials from one place to get your volume discount.
 - Have lumber delivered 5 feet from the slab. This decreases time spent fetching materials.
 - Have the lumber company stack the lumber on the truck in order of use. That puts the baseplates or subflooring on the top and the roof rafters on the bottom.
 - Have each subcontractor crew clean up after itself.
 - Get all change orders in writing. Also, get a clear description of material specs at the prejob conference. There's a big difference in cost between paint-grade and stain-grade lumber, for instance.
 - Develop a purchase-order system. Negotiate the price in writing for materials or services rendered. This keeps the price from fluctuating from the time of order to the time of billing.
 - Develop a critical path of construction and stick to it.
 - Build the same house repeatedly. The first time you will have waste. The next time you had better not. □
- Reprinted from *The Builder's Management Journal*, published by the National Association of Home Builders' Business Management Committee.

From What We Gather

A compressorless air conditioner that may use half the energy of equivalent conventional units should be commercially available by 1993. The unit, developed by an Arizona firm called Albers Air Conditioning Corp., uses no CFCs or compressor coils to cool the incoming air. Instead, outside air is cooled by passing first through a heat exchanger, where it is cleaned and dehumidified with a lithium bromide desiccant spray, then through a water spray that cools and rehumidifies the air.

A new sort of hammer can pull nails from wood without bending them. Thomas Schlegel, a Chicago mechanical engineer, patented the design in which a roller atop the hammer allows the hammerhead to move toward the nail as the claw pulls the nail straight up.

Good landscaping can raise a home's value by up to 30%, according to a recent real estate industry newsletter. The newsletter claims that landscaping has a higher return on investment value than kitchen or bath remodeling. Those investments are believed to generate a 75% to 125% return, while landscaping can bring up to 200%.

Two-by-six walls were used in more than 20% of new American homes in 1988, according to the U.S. Forest Products Laboratory. The fatter walls, which allow more insulation, were even used in 10% of houses built in the South. Only 6% of the walls were built with 24-inch centers, however, even though 2x6 studs give enough structural stability to do this.

Tweezers are among the items required in construction-site first-aid kits by the California Occupational Safety and Health Administration (OSHA). The state OSHA has a highly specific list of items required on all job sites, which includes an industry-specific first-aid kit and first-aid instruction card.

A construction worker in the U.S. is three times as likely to be injured on the job as a construction worker in Canada, according to a recent article in the *Buffalo (N.Y.) News*. □

Cutting, continued

- changed over the last few years," says Stoeppelwerth. "There are no more mass markets. There are only niche markets. You have to have a way to zone in on your market niche, and you'll have to market to it effectively."
- Recognize that you must do sales. "Don't just be an order taker," says Stoeppelwerth. "Someone in your company has to be a professional salesperson. Use a presentation book and learn how to close a deal. Consider hiring someone if you can't do this yourself."
 - Streamline and standardize production so that it moves efficiently.
 - Learn how to remodel the post-World War II house. "This will be a greater part

of the market as these homes age," Stoeppelwerth notes. "And they are often similar to each other, so that you can standardize production and be more efficient."

- Learn to recruit, hire, and train good employees, and take good care of them. Good workers will be harder than ever to find and keep.
- Computerize. "You can't control the myriad of details you need to take care of without a computer."

In sum, says Stoeppelwerth, "Remodeling is a big business going up. As a small contractor, to separate yourself from the pack, you have to do most everything a \$1 million to \$2 million company does. You have to be good at everything." □

Energy, continued

- cooling equipment, provided the home's energy use stays below specified standards
- by "acceptable practice," a somewhat ambiguous prescriptive approach using minimum standards for building envelope elements and heating and cooling systems

These alternatives are meant to provide a variety of compliance options. By following acceptable practice, for instance, you can, in theory, build more or less by the prescriptive standards that specify the performance of each insulation and hvac component. The other two options allow you to make various trade-offs between components.

But critics say the performance options in the code are too vague. They complain that the code's ambiguities — along with the failure to specify a particular software package or other method of calculating a building's energy requirements — leave so many options for making trade-offs and calculating energy efficiency that proving you have complied is difficult. With so many ways to interpret the code, these critics say, the chances are great that a builder's interpretation and that of the code officer won't match.

As Chicago's Perry Bigelow, a leading builder of energy-efficient homes and a member of the NAHB Energy Committee, puts it, "Inspectors don't want to go toward performance codes because they are harder to evaluate. So, given the chance, they tend to stress the prescriptive guidelines."

To simplify compliance, NAHB's energy committee is developing a compliance performance sheet to help builders

make and document trade-offs. "When we get that worked out," says Bigelow, "we will have a tool you can use to convince the inspector you have complied."

Bigelow hopes that this tool, along with modifications NAHB is trying to convince CABO to include in the 1992 MEC, will make the code more workable for builders that must use it. NAHB is expected to still oppose the code, however, on the grounds that it unfairly burdens the new home industry. Bigelow, for instance, feels the MEC is well-intentioned but misguided, because it addresses only new homes and not existing structures.

"I feel strongly that we should conserve our energy resources," he says. "But is it the responsibility of new-home buyers to make the U.S. more energy efficient? A typical newly built house in Chicago takes about \$300 a winter to heat. Houses 30 or 40 years old cost about \$1,200. A 1989 MEC house would cost about \$180. Does it make sense to spend several hundred or thousand dollars to make new houses save \$120 a year when you have all those dinosaurs out there?"

Whether this question will be considered in the debate over the MEC remains to be seen. Perhaps the MEC, having been thrust into the spotlight by its wide acceptance and its inclusion in proposed national energy legislation, is being asked to do too much. In the meantime, most builders who work with it hope that the 1992 version will address the ambiguities about how to comply, and perhaps provide a systematic approach for doing so. □

"God Squad" Weighs Future of Ancient Forests

Within the next few weeks, the Endangered Species Committee, or "God Squad," a panel of seven political appointees under the chairmanship of Interior Secretary Manuel Lujan, Jr., will decide whether 4,570 acres of old-growth forests in Oregon will be available for logging.

At stake, say analysts, is more than a few thousand board feet of timber.

The Sierra Club Legal

Defense Fund, on behalf of the Sierra Club and several other environmental groups, testified before the God Squad that cutting these particular groves of old trees will jeopardize the Northern Spotted Owl, an endangered species that lives primarily in old-growth forests, as well as the delicate ecosystems that survive in these forests. The group argued that cutting the trees is unnecessary

since the demand for logs is low.

Those in favor of exempting the forests from the Endangered Species Act say human needs should be weighed against the needs of the Spotted Owl. Closing the land to logging eliminates jobs. Says Senator Bob Packwood of Oregon, "The God Squad will take into account all species, whether they are owls or people." □

Model Offers Help Showing the Flow

It's hard enough for many builders to understand all the ins and outs of pressurization in a house. But explaining things like backdrafting or the stack effect to clients can get really confusing.

To make it easier, researchers

at the University of Minnesota have developed the Home Indoor Airflow Demonstration Model. This miniaturized slice of a two-story house contains working-scale models of a furnace, water heater, clothes dryer, fireplace, and exhaust fans. A plexiglass cover lets clients see for themselves how

synthetic smoke travels through the model according to how the tiny appliances are manipulated.

The cost of the working model is \$2,000, but for \$250 you can buy building plans to make your own version. For more information, contact the university at 612/625-6214. □

TAX

Finding Good Tax Help...and a Tip

by Irving Blackman

Tax questions tend to remain the same from year to year: How do I take money out of my corporation? How do I transfer my business to the next generation? How do I put a value on my business? How do I structure the purchase or sale of a business? Or, how do I minimize estate taxes? Also popular are questions on travel and entertainment and S corporations.

But the most common question of all is: Where can I get good tax help?

Most of the time, the answer boils down to: Find a good tax lawyer, or find a good CPA (certified public accountant). We usually recommend this approach:

Get several referrals. Ask your banker, CPA (if you're seeking a lawyer), lawyer (if you're seeking a CPA), insurance agent, or other financial professional to make a recommendation. Your trade association and local business friends with good judgment are good

sources of referral, too. If your community is small, you might extend your search to larger cities. In general, your best bet is an experienced practitioner whose practice has grown over the years. But the firm's size (or, for that matter, location) is far less important than expertise in the tax or business area in which you have questions.

Interview all candidates, and get at least two references from each. Select someone you feel comfortable working with, and who shows a clear working knowledge of your area of business.

Do ask in advance how much you will be charged. Be ready to pay well for good service, but don't hire someone if their fee is so high that you stand the chance of paying the consultant more than you will save in taxes.

On another note: In a rare move, the IRS has made something simpler. Specifi-

cally, getting an extension for filing your taxes is now easier. The old Form 4868, the application for an extension to file your Form 1040 after April 15, is now dead. The new rules, starting this year (for returns for the 1991 tax year) are as follows:

On or before April 15, just pay 90% of your ultimate 1991 tax liability (risky, because penalties apply if you miss the mark by even one dollar); or, the safe route, pay 100% of your 1990 tax liability — the easy route, since you know the exact amount. That's it. Your return-filing deadline for the 1040 is automatically extended to August 15.

You needn't bite your nails about taking the extension: the chances of being audited are the same for returns extended as for those filed by April 15. □

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Credit Unions Stronger Than Banks

Credit unions are healthier than commercial banks, according to a recent study by Veribanc, of Wakefield, Mass.

The firm's analysis of financial data from more than 12,000 credit unions showed that the credit union industry has actually improved during the recession, even while the nation's banks have fallen deep into crisis.

The data showed that credit

unions have better equity-to-asset ratios, a smaller percentage of deposits that are not federally insured, and fewer problem real estate loans. Only 0.4% of credit union real estate mortgages have been foreclosed, while banks have foreclosed upon 2.9% of their holdings. □