

QUALITY CONTROL OVERVIEW FOR KILN DRIED LUMBER

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Good afternoon. I appreciate the invitation to join you this week here in Reno. The Dry Kiln Association has established a great tradition in meeting in this city. I didn't realize the reasons behind that tradition until I checked into the hotel.

The young lady at the front desk was getting my room reservation set up and she started to tell me about all the gambling facilities here at the hotel. She even started to explain how to play some of the games. But when I gave her my credit card, which has my company name on it, she suddenly went quiet.

Since I like to gamble a bit, I asked her to continue with her explanation. "Oh, I'm sorry," she said, a bit embarrassed. "I just thought that since you worked in the lumber industry, you would already be familiar with most games of chance." Given our industry's experiences over this past decade, making lumber is not the sure thing it once was. Today, it doesn't take much to go from winning to losing in this business.

The rules of the game for lumber manufacturing have changed considerably during the 1990s. And these changes have cut deep into this region's lumber production, with the closing of hundreds of operating mills.

A decade ago, we had more than 700 mills in the West, producing upwards of 24 billion board feet of lumber. For the year just ended, with markets similar to what we experienced in 1987, the region produced just under 17 billion board feet with half as many mills, about 350.

Despite the losses, we still have a solid base of sawmills in the West today providing lumber to customers throughout the world. These mills are still in the game today not because they've beaten the odds. Instead, they have hedged their bets in every part of their business, from timber supply to manufacturing and customer service.

At WWPA, we've tried to work closely with our Member and grading service mills to improve their odds in the marketplace. We believe one of the best ways to remain competitive in the building materials market is to ensure that all WWPA grademarked lumber meets the established grades and standards.

Kiln drying plays an important role in the quality of the lumber. Proper drying can not only impact a mill's bottom line, it can also help avoid problems in customer perceptions of the lumber, or in actual use. More mills in the West are recognizing this today. Dry lumber, including both kiln and air-dried, now comprises a growing share of the West's lumber production. About 67 percent of the lumber produced in the West is dry, compared to 62 percent in 1989. This shift has taken

place despite declining production in the Inland Region, where mills have traditionally dried most of their lumber. Much of this shift from green to dry has come in the framing grades. Take, for example, Douglas-fir/Larch, the species combination produced in the Inland West. In 1989, 59 percent of Douglas-fir-Larch Dimension lumber was sold as dry; today 80 percent is dry. Eight years ago, almost two-thirds of Douglas-fir-Larch Studs were dry. Now, 96 percent of the Studs are dried. This shift is even seen in the Coast Region, where most lumber is sold as green. Today, 16 percent of the Douglas Fir lumber is sold as dry, up from 13 percent at the start of this decade.

Some species, such as coastal Douglas-fir, will continue to be sold predominately as green lumber. But there are growing influences which are pushing Western mills to dry a greater share of their annual production. Dry lumber can help ease complaints or negative perceptions about the quality of lumber. Next to wane, bow and crook are the most common complaints heard about lumber quality today. As you know, kiln drying can help control these characteristics.

This also carries into comparisons with competitive materials like steel, concrete and plastic. Since these materials are extruded or formed, they're often marketed as "straighter" alternatives to wood. The expansion of the "big box" warehouse chains like Home Depot and Builder's Square have also influenced the trend toward dry.

These retailers demand products that have a good "shelf appearance" and take measures to insure they don't get stuck with a bin full of warped lumber. Given the volumes their willing to buy, many mills are developing special products that go beyond standard grades. Kiln drying is often a requirement in these "home center" grades. Of course, the timber we cut in sawmills today is different than in the past. Since we now rely on smaller second- and third-growth logs, there's more heart-center lumber coming out of the saws. Because of this grain pattern, the lumber can be more prone to cupping and warping if not dried properly. Then there are the dollar and cents reasons for shipping dry instead of green lumber. Using WWPA's monthly F.O.B. Price Summary report, some of those bottom-line differences can be seen clearly. In March, the price of green Douglas Fir-Larch Standard and Better 2x4s in the first quarter of this year averaged \$406 per thousand. But that same product, only dried, sold for \$440 per thousand. That spread represents a pretty good return for the lumber, even after subtracting the drying costs.

Even larger spreads can be found in other species. Inland hem-fir 2x6s, No. 2 and Better, sold green for an average of \$388 in the first quarter of this year. The same product and grade sold dry for \$441; a \$53 per thousand premium. We expect that more of the Western lumber production in the future will be dried. Lumber grading rules are now reflecting some of these changes. Three years ago, the adoption of Product Standard 20-94 which provides the basis for all lumber grades included provisions to allow mills to mark lumber as KD, or kiln dried, in addition to the S-Dry and MC-15 designations. The KD mark for grade stamps was prompted not only by buyers who wanted to know if the lumber was dried under controlled conditions, but also by the mills who hoped the mark would add a bit more value to the wood. The new PS 20-94 also set new requirements for grading agencies like WWPA to ensure the accuracy of the moisture content marked on

lumber. Today, agencies must visit mills at least once a month to inspect lumber instead of the 10 visits a year as previously required. (We were strongly in favor of that change; we've traditionally made monthly visits to mills as part of our grading services.) We also raised the bar for determining whether lumber was considered off grade during an inspection.

Previously, the threshold for both grade and moisture content was 10 percent. That meant if an inspection of an item showed it was 10 percent off grade or above the stated moisture content, all the mill's inventory of the item would have to be regraded. The new requirements tighten that threshold at 7.5 percent. This still provides some latitude for those "liner" pieces and subjective decisions that must be made in a production setting. It's important to note this action wasn't taken because too much off-grade lumber was coming into the market. Instead, it was intended to improve buyers' confidence that lumber in the market meets or exceeds the grade and moisture content standards indicated on the grade mark.

There's been a lot of criticism of late that lumber today isn't as good as it used to be. I don't believe that is true at all. In fact, I think the lumber sold today is as accurately graded as it has ever been. The Western lumber industry has remained firm in its commitment to deliver an on-grade product to customers. When problems arise, mills have made concerted efforts to resolve complaints and keep important customer relations intact. We've seen the results of this commitment first-hand. This past year saw the lowest number of reinspections ever conducted by WPA. In 1996, we conducted just seven reinsertions on lumber, only four of which involved products made by WWPA mills.

A little more than a decade ago, we were doing upwards of 100 reinspections annually. When it comes to grade and moisture content, it just doesn't make financial sense to produce an inferior product. In fact, in today's market, there are more incentives to get the highest possible grade out of the lumber you produce and proper kiln drying is an important ingredient in maximizing that value. To get the best value out of the logs you are cutting, you must work to control how and where various characteristics appear in your lumber. For characteristics such as knots and slope of grain, you can exercise this control during sawing and trimming.

And if you want to control splits, twist, warp and checking, you've got to dry it properly in the kiln. Missing the little details in kiln drying can have a big impact. In today's competitive market, that means some real dollar and cents consequences. Again, using our lumber price statistics, let's look at how these differences can add up. We'll start with Shop lumber. In March, Ponderosa Pine 5/4 No. 1 Shop sold for an average of \$1,138 per thousand. But if drying problems cause the grade to drop to a No. 2, the lumber would be worth only \$1,029, or about \$110 less. Often, though, some missing stickers or improper placement of loads on the kiln cart can lower the grade by more than one grade. If these problems dropped the stock by two grades to a No.3 Shop, the value of the wood slides to just \$847 per thousand. I doubt if there are many mills willing to leave almost \$300 on the table. The differences are even more apparent in Common lumber. Take Ponderosa Pine 4/4 x 10. In March, No. 2 & Better Common was selling for \$836 per thousand. Drop a grade because of drying problems, you would get just \$450 per thousand. If the stock fell down to a No. 4 Common, the value

would be less than half just \$305. Loss of grade due to improper drying can hurt in Dimension products as well. The spread between two grades of Coastal hem-fir dry 2x6s in March was more than \$150; No. 2 and Better sold for \$435 per thousand vs. \$283 for No. 3. drop down into the Economy grade, the difference is more than \$250. As a third-party lumber inspection agency, we take the responsibility of protecting the integrity of every piece of lumber that carries the WWPA grade mark. At the same time, we recognize we can do more than check grades--we can also assist mills in maximizing the value of their lumber.

Each month, WWPA inspectors visit mills with the express purpose of reviewing stock for proper grading and moisture content. But these inspections are more than a pass/fail exercise. If we discover grading problems, we have procedures in place to reveal whether the problem lies with a single grader or a group of graders. In either case, the inspector will meet with the grader or graders involved and review the pertinent grading rules. The inspector can also offer tips and advice on how to improve grading accuracy. By viewing representative samples of a mill's inventory, WWPA inspectors have a unique perspective on what the mill is producing. Often, they can see things that may not be apparent during the day-to-day production. For example, the inspectors may find that an item has dropped a grade because of correctable things, like excessive checking or knot placement on the pieces.

After an inspection is completed, the inspector will discuss his findings with the plant quality control supervisor or mill manager. He may suggest changes in sawing or trimming practices or perhaps a review of the kiln drying schedules. Providing this level of grading service requires individuals with extensive lumber grading and production knowledge. I'm proud to say WWPA inspectors are some of the most experienced lumber grading professionals working in the business today. Our staff averages nearly a quarter century of lumber grading experience and some 15 years mill inspection experience. Exclusively for our Member operations, we offer an even more extensive service to assess a mill's lumber production processes. By conducting a Mill Efficiency Study, we can often uncover areas where a plant may not be getting the highest value for the wood being cut.

These studies are conducted on request by WWPA's Regional Quality Standards Directors, who are our most experienced lumber grading professionals. The study includes a review of the entire production process from the log yard to the shipping department. Depending on the size of the mill, this review may take as long as a week. We then sit down with the mill management to discuss the findings and make recommendations on how they can improve mill operations. The company also receives a detailed report that can be shared with other employees. Just last fall, we conducted a mill efficiency study for a major Inland sawmill.

After an extensive review of the operations, the study uncovered more than a dozen detailed improvements the mill could make to enhance their recovery. Those improvements are now returning bottom-line results for the mill. The old rules for making lumber don't necessarily apply to today's competitive times. The Western lumber industry has undergone dramatic changes in the past decade and we can expect the pace of these changes to accelerate into the next century. As an industry, we should not expect our markets, our competition or our customer's perceptions of lumber to remain static.

When the rules of the game change, we must be ready to change as well. I'm confident that we can respond to these challenges and continue to deliver a product to customers that they can trust and have confidence that it will do the job. We each have a stake in making that happen. Perhaps that young lady at the front desk was right: we know what kind of gamble it takes to succeed in the lumber business today. But we also understand how to improve our odds by manufacturing a quality product that our customers want. And I'll bet we can continue to be successful.