

How to Accurately Price Change Orders

There are a lot of reasons we lose money in this business: estimating poorly, starting projects with incomplete plans and specs, writing insufficient contracts, and improperly managing change orders, to name a few. Sometimes, the reason is obvious, like when we make an estimating error because we didn't have time to put together a proper estimate and missed some critical information. Or we rushed into production with a vague scope of work and everything was an allowance. I've been in the remodeling business since the early 1980s and a consultant-trainer since 2000. Over that time, what I've gathered from personal experience and from the remodeling companies I've advised is the main problem tends to lie with change orders.

There are many ways things can go wrong with change orders: They don't get written up because the change is deemed too small, or the field staff assumes the work is included in the job scope; they take too long to process and a protracted delay can convince the client that the extra work is part of the original contract, so they won't pay for the change; they are inaccurately priced (more on this below); they are not clearly explained in the initial stages of the project and clients don't understand the contract language on how the change-order process works; and they sometimes don't account for disturbance days that inevitably delay a project's overall schedule. (See "Getting Change Orders Right" (Jul/19) for more information how to manage change orders and disturbance days.)

In this article, I focus on how to help prevent inaccurately priced change orders from becoming financial drains to your business. Because if you don't track them in terms of profit and loss, there's a good chance that your losses are occurring somewhere in the change order process. And that slippage can be incremental as you go through a project; you lose a little bit here, a little bit there, and then, boom, by the time you get to the end, you've lost a fair amount.

PRICING CHANGE ORDERS ACCURATELY

When we look at what it costs for a change order to take place, odds are we probably miss important items that should be included. So, you must be careful and take the time to think about everything that's going to be affected by the change and add to your costs.

For example, you're working on a house addition, and your clients come home from work and say, "Hey, we don't think this window is big enough; could you change it? And while you're at it, could you move it over a foot?" At this point in the project, all the framing has been completed and the exterior walls have been sheathed, but no interior work has been done yet. The electrical,

plumbing, and HVAC rough-ins haven't been started either. So, what items should be in this change order?

First, you need to account for labor, materials, and any equipment costs related to the demo and reframing of the wall. You need a cost for the new, larger window plus the labor to install it. What about your trade partners? Is there going to be any shift in the electrical? Maybe the receptacle and lighting layout needs to change. What about the plumbing or HVAC? Where is the 98% efficient furnace going to vent now? Does it need to be moved 3 feet over to be far enough away from the new window location?

How about the exterior trim? You need to add 3 feet of trim because your original estimate included only enough to trim out the smaller window. Dump fees? It's not a lot of trash, but nevertheless, you're going to have to get rid of it. Lumberyard runs? I'd put in some money to cover the time it takes to pick up materials.

Last, what about the time that it took to talk to the clients, then figure out the change order estimate? We often don't charge for this, and it is money that we're giving away. Also, if a project manager or lead carpenter is compiling the estimate, it takes them away from other work they're supposed to be doing to create profit for the company. This is lost time, and it might be quite expensive depending on who is writing up the change order.

Field change order calculator. To help manage the costs of a change order, I use a spreadsheet tool I developed in Excel; you can download it by scanning the QR code on page 31 with a smartphone camera app. It's easy to use: You simply fill in the pertinent time and cost information about the change in the yellow highlighted cells. The app autocalculates in the clear cells, then arrives at a change-order sale price to present to the client (see Field Change Order Calculator, page 30).

Following through with the window example mentioned above, in cells at the top left of the spreadsheet, you'd fill in the number of productive hours per day expected by crew member (in this case, seven hours), your burdened rate per hour for highest paid crew member (\$50), and your markup (1.67%).

Below these items, under the term "phases," I list all the cost categories and project tasks that I would have in an estimate. The idea is to prompt the employee completing the form to think about all the possible implications of the change when reviewing the list. Is there any excavation? No. Any demo? Yes. Any concrete? No—etc.

For administration time, I entered two person hours, which automatically calculates two times the \$50 labor rate to \$100. I input two hours for the demo work (\$100), three hours to reframe the wall (\$150),

Field Change Order Calculator

1 In cells B3-B5, enter the number of productive hours per day expected by crew member, burdened rate per hour for highest paid crew member, and your markup (cell B5 can be locked or hidden as needed).

2 Probable cost categories are listed under "phases" in cells A9-A32. The crew member enters in hours for each phase affected, as well as material costs, subtrade costs, and any other costs. Column "C" cells autocalculate based on hourly rate from cell B4.

3 Cells in row 33 autocalculate the hours and dollar amounts listed in rows 9-32.

4 Cells J8, J9, and J11 autocalculate the total of all the costs, the sales price based on the markup entered in B5, and the number of hours in B33 divided by the productive hours you entered in B3.

Phase	Person Hours	Labor Cost	Material Costs	Sub Costs	Other Costs
Administration	2	\$ 100.00			
Excavation		\$ -			
Demo	2	\$ 100.00			
Concrete		\$ -			
Masonry		\$ -			
Framing	3	\$ 150.00			
Roofing		\$ -			
Exterior Trim		\$ -	\$ 50.00		
Decks		\$ -			
Doors		\$ -			
Windows	1	\$ 50.00	\$ 1,000.00		
HVAC		\$ -		\$ 200.00	
Plumbing		\$ -			
Electrical		\$ -			
High Tech Wiring		\$ -			
Drywall		\$ -			
Interior Trim		\$ -			
Cabinets		\$ -			
Countertops		\$ -			
Flooring		\$ -			
Specialties		\$ -			
Clean Up/Trash		\$ -			\$ 50.00
Punch out		\$ -			
Lumberyard Run	2	\$ 100.00			
Totals	10	\$ 400.00	\$ 1,050.00	\$ 200.00	\$ 50.00

Total Cost	\$1,700.00
Sale Price to Client	\$2,839.00
Additional Labor Days	1.4
Add disturbance Labor days	0.00
Add disturbance days OH/Net	0
Total Days Added	1
OH/Net Per day per Job	\$ 350.00
Add Labor Costs	\$ -
Add OH/Net	\$ 1,400.00
Sale Price with Disturbance days	\$2,839.00

To help accurately price change orders, the author created an Excel spreadsheet tool that can be downloaded by scanning the QR code on page 31. The Field Change Order Calculator reflects the window example noted on page 29, in which the clients requested the window to be larger and in a new location. Labor, materials, and tools related to the demo and reframing of the wall must be accounted for, as well as the costs for the new window and moving the furnace vent location. Other costs include exterior trim, dump fees, time for a lumberyard run, and administration time to estimate the change order.

\$1,000 for the new, larger window plus one hour to install it (\$50), and \$50 for the exterior trim. To move the furnace vent 3 feet from the relocated window, I entered \$200 for the HVAC sub, \$50 for trash dump fees, and two hours for a lumberyard run (\$100). The cells in the last row of the phases section autocalculate the hours and dollar amounts of the filled-in cost categories and project tasks.

The total cost (\$1,700), sales price to client based on the markup (\$2,839), and the additional labor days (the total person hours divided by the productive hours per day; in this case, 1.4 days) are autocalculated at the top right of the spreadsheet.

Disturbance days. A disturbance day is simply any day added to the overall schedule that's not accounted for in overhead and net for additional labor as a result of a change order. Typically, if you have two days of labor, you charge for overhead and net for those two days associated with the labor. But if the scope of the change order pushes the job out, say, two days overall, who's paying for

those extra days in terms of overhead and net? If you're being held up from finishing the job, how you can you start another? It's called lost-opportunity cost, and you're losing money on this unless it's accounted for in the change order. (See the Field Change Order Calculator with Disturbance Days, opposite page.)

For this example, I've decided to charge the client \$350 per disturbance day, which I input in the "overhead and net costs per day, per job" line below the total cost, sales price, and additional labor days. This amount may be on the low side (a company I advise charges \$1,275 a day, per job), so you'll need to do the math to figure out what that cost is for your company. You must get compensated for those additional days because a client-generated change can impact your ability to start on future work.

Four disturbance days were added because the change required rescheduling the HVAC sub to move the furnace vent location. The change pushed the job out another four days on the overall

Image by Tim Fuller, adapted by JLC

Field Change Order Calculator (with Disturbance Days)

	A	B	C	D	E	F	G	H	I	J	K
1	Field Change Order Calculator										
2											
3	Productive Hours Per Day	7									
4	Labor Rate per Hour	\$ 50.00									
5	Mark Up	1.67									
6											
7	Phase	Person Hours	Labor Cost	Material Costs	Sub Costs	Other Costs					
8											
9	Administration	2	\$ 100.00								
10	Excavation		\$ -								
11	Demo	2	\$ 100.00								
12	Concrete		\$ -								
13	Masonry		\$ -								
14	Framing	3	\$ 150.00								
15	Roofing		\$ -								
16	Exterior Trim		\$ -	\$ 50.00							
17	Decks		\$ -								
18	Doors		\$ -								
19	Windows	1	\$ 50.00	\$1,000.00							
20	HVAC		\$ -		\$ 200.00						
21	Plumbing		\$ -								
22	Electrical		\$ -								
23	High Tech Wiring		\$ -								
24	Drywall		\$ -								
25	Interior Trim		\$ -								
26	Cabinets		\$ -								
27	Countertops		\$ -								
28	Flooring		\$ -								
29	Specialties		\$ -								
30	Clean Up/Trash		\$ -			\$ 50.00					
31	Punch out		\$ -								
32	Lumberyard Run	2	\$ 100.00								
33	Totals	10	\$400.00	\$1,050.00	\$200.00	\$50.00					
34											

Total Cost	\$1,700.00
Sale Price to Client	\$2,839.00
Additional Labor Days	1.4
Add disturbance Labor days	0.00
Add disturbance days OH/Net	4
Total Days Added	5
OH/Net Per day per Job	\$ 350.00
Add Labor Costs	\$ -
Add OH/Net	\$ 1,400.00
Sale Price with Disturbance days	\$4,239.00

5 Overhead and net costs per day, per job for your company (cell J17). For this example, the author decided to charge the client \$350 per disturbance day.

6 Enter the number of disturbance days in cell J13.

7 Cells J13 and J17 autocalculate the total of all the costs in cell J20 on the "Add OH/Net" line.

8 Sale price with disturbance days autocalculate in cell J22.

Following through with the window example, the user can account for any disturbance days on the change order, if applicable. Disturbance days are delays to the project on the overall schedule that are not accounted for in overhead and net for additional labor as a result of a change order. On the right-hand side of the spreadsheet, four disturbance days were added because the change required rescheduling the HVAC sub to move the furnace vent location. The change pushed the job out another four days on the overall schedule, which increased the change order sale price.

schedule, which increased the change-order sale price of \$2,839 by the "Add OH/Net" amount of \$1,400, to \$4,239.

When it comes to change orders, we're charging the client for more than just nuts-and-bolts items like the wood and labor. It's incumbent on us to take the time to think about every cost that should be included.

Change orders always cost you something. I think change orders are hard to estimate because they are out of sequence and don't usually fit into the normal chain of events of a project. They can be moneymakers, or they can be money losers, and they generally take longer to create than you think they will. So, when estimating them, if you think it's a three-hour

change order, I'd estimate it as five hours, or if you think it's a four-hour change order, put six hours in there.

Also, they always cost you something. And it doesn't matter if it's a no-charge to the client. Any time someone stops to talk about a change order or think about a change order, it costs you money. Some companies I advise charge a fee for any change order that's generated during a project. I don't think that's a bad thing as long as you're comfortable with it. My preference is to do additional work upfront to make sure the clients are willing to spend the money.

Change orders always seem like they're too much money. Again, you must try to think of everything, assume that you missed



Scan QR code above with camera app to download the Field Change Order Calculator spreadsheet tool.

something, and double-check your estimate. You must also realize that change orders always seem like they're going to be too much money. Always.

As an example, a client asks you if you can add another interior door—let's assume the interior doors are Masonite solid-core, six-panel doors with trim. In the original estimate, each interior included everything to install it; the door, trim, labor to install, painting, hardware, the doorstop, etc. That door may have cost \$1,500 in the original estimate.

When you come back with an isolated amount of \$1,800 to add the interior door, the clients are going to say, "I saw this door at Home Depot for \$200. There's no way it could cost that much!" It's going to always feel like, "Wow! This is way too much money both for us and for them." So, you must be ready for that reaction, and whoever is presenting the change order to the client needs to be aware of this and explain what it takes to install a new door from your company's perspective.

Also, remember that what you think may be a no-cost change order always costs you something and will likely result in down-the-road costs that you may not be including.

Here's an example: You're doing an addition with a small powder room. The clients visit a friend's house that has a little powder room, and they start to think, "Oh no, our new powder room is going to be too small." At this point, the interior framing hasn't been done yet, and the clients meet the lead carpenter and ask, "Can we make this powder room just 6 inches bigger?" You know nothing's been done, so you say, "sure no problem." But if you move a wall over 6 inches, what have you impacted? The plumbing? The floor finishes? Say there's imported Italian tile in the bathroom. You now need another 6 square feet of tile—where is it coming from? How much does it cost? Maybe it's in the order already, but you should still get paid for it, right? So, just be thinking about down-the-road costs as you're doing change orders.

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Health Insurance Basics

BY ROB CORBO

Despite all our efforts to create safe, healthy jobsites, accidents do occur and people do get sick. If you want a career in construction, or you're thinking about starting your own construction company as a sole proprietor or with a small crew, you have to think about health insurance.

If you're young and single, you might skip health insurance altogether and charge full steam ahead into your own business. If you're married and have children, you may decide not to start your own business at all. If your spouse works and receives health insurance from his or her employer, you've hit the lottery. *Forbes* reported in May 2023 that the average monthly premium for a family in the Affordable Care Act Marketplace ranges between \$928 for a bronze plan, \$1,217 for a silver plan, and \$1,336 for a gold plan. One thousand dollars a month is \$540,000 over a 45-year career. That's lottery-type money. For us small-time business owners, government-provided universal healthcare starts to look pretty good, but until that day comes, if ever, the ACA Marketplace provides a variety of health insurance plans (healthcare.gov).

The Marketplace is designed for people to compare and buy insurance plans. It has four categories of healthcare plans: bronze, silver, gold, and platinum. Bronze plans are high-deductible health plans (HDHP) with low premiums. Platinum plans have the highest monthly premium but pay the most for medical care. (Very few platinum plans are available on the Marketplace platform or directly

from insurers.) If you're healthy, a bronze plan may be your best option. If you have a lot of medical expenses, a higher-premium gold or platinum plan may be less expensive in the long run. The four levels of plans are differentiated based on their actuarial value, which measures the generosity of benefit coverage. The higher the actuarial value, the more the plan will pay. The actuarial value of each plan is as follows: a bronze plan covers 60% (policy holder pays 40%); silver, 70%; gold, 80%; and platinum, 90%. When you review plans in the Marketplace for purchase, it's important to understand premiums, deductibles, copayments, coinsurance, and out-of-pocket maximum. We can use a discussion of a bronze plan to illustrate each.

BEYOND PREMIUMS

More than one-third of all health insurance plans, public and private, in the United States are high-deductible plans. In 2021, 55.7% of private-sector workers were enrolled in them, according to a report by ValuePenguin, a division of LendingTree. High-deductible plans are exactly what their title suggests: They have a higher deductible and a higher total out-of-pocket expense in exchange for a lower monthly premium. They best serve people who are generally in good health and don't need a lot of medical services. In a personally healthy year, you will pay your premiums and little else, but, if by chance you are taken ill, you will have to pay up to the plan's deductible before the plan pays anything.

HEALTHCARE IN THE CONSTRUCTION INDUSTRY

Construction workers are more likely to lack health insurance than workers in any other industry, according to CPWR - The Center for Construction Research and Training, the nonprofit construction safety and health research and training arm of the North America's Building Trades Unions. In its April 2020 Data Bulletin, CPWR reported that the percentage of construction workers who were uninsured was 24.6% in March 2019, down from 33.1% in 2012. The decrease was a result of better access, affordability, and discounts from the passage of the Affordable Care Act—yet, still, 1 of every 4 construction workers has no health insurance. For the same period, CPWR reports, the uninsured rate for all industries was 10.9%. Members of construction unions and construction workers employed by large companies are more likely to have health insurance than sole proprietors or those working for small construction companies of 10 or fewer employees. Union members are also more apt to have their health insurance premium paid in full: 47.3% vs. 21.7% for non-union members.

Health insurance in the United States is an employer-based system, unlike in most other western industrialized countries, where citizens have a universal healthcare system—a safety net that provides basic healthcare. In a country with a universal healthcare system, if you're lucky enough to have additional funds, you can augment what the government provides with private medical services.

How did the United States develop an employer-based healthcare system? Before 1942, there were such products as accident insurance, though they were intended more as compensation for lost wages than as a payment for medical expenses, and sickness insurance, sold by hospitals. Then, during World War II, Congress passed The Stabilization Act of 1942, also referred to as the Inflation Control Act, which authorized the president to stabilize prices, wages and salaries to offset the influences of a world war on the U.S. economy. However, the Act excluded controls on worker benefits including "insurances and pension benefits in a reasonable amount to be determined by the President." Because of wage controls and a limited work force due to the war, employers began to offer healthcare benefits and pensions in an effort to attract and retain workers.

Over the next several decades, a strong middle class developed thanks to a good job market, the GI Bill, union membership, and a corporate philosophy that included healthcare as an integral part of compensating employees. Unfortunately, corporate philosophy changed and healthcare costs began to increase.

Fast forward to 2023 and many U.S. employers that used to provide full healthcare insurance and a pension plan now provide a high-deductible health plan that requires employee participation and a 401(k) retirement plan with a single-digit percentage match. The burdens of healthcare insurance and retirement saving have been passed from the employer to the employee. Construction workers and the middle class have taken a big hit. —R.C.

For example, for 2023, a bronze high-deductible plan has a minimum deductible of \$1,500 for an individual and \$3,000 for a family, and has a total out-of-pocket cost of \$7,500 for an individual and \$15,000 for a family.

After meeting the \$1,500/\$3,000 deductible, you will have reached the copayment/coinsurance part of a plan. At that point, either you'll pay a fixed amount, or copayment, for a service—say, a \$35 copay for a doctor's office visit; or you'll pay a percentage of the cost, or coinsurance—say, you pay 20%, or \$200, of a \$1,000 hospital visit while the insurance company pays the other 80% (some plans may have a different split from 80/20). The copayment/coinsurance applies until you spend another \$6,000/\$12,000, bringing you up to the out-of-pocket maximum. Once you hit that, the insurance company will pay all medical expenses until the next year, when the clock starts all over again. So, if you have a lot of unforeseen medical issues in a year, your healthcare costs with a high-deductible plan might be more than expected.

And, don't forget, on top of the dollars discussed above, you still have monthly premiums to pay. Premiums for a bronze plan can cost a 30-year-old individual \$430 per month (\$5,160 per year) and a family \$928 per month (\$11,136 per year). In a bad year, a family

would shell out \$15,000 in out-of-pocket costs plus \$11,136 in premiums for a total of \$26,136.

By comparison, a gold plan may have a family monthly premium of \$1,332, a deductible of \$2,500, and an out-of-pocket maximum of \$8,500. Total out-of-pocket costs for a gold plan in a bad year would be \$15,984 in total monthly premiums plus \$8,500 in out-of-pocket costs for a total of \$24,484, compared with \$26,136 for the bronze plan. However, in a good, healthy year with no medical expenses, a gold plan would run \$15,984 in premiums while a bronze plan would cost just \$11,136 in premiums.

In-network vs. out-of-network. Has your head exploded yet? No? Let's work on that. In addition to the four tiers discussed above, you need to decide what type of plan you want: one that uses the insurance company's in-network healthcare services of doctors, hospitals, pharmacies, and specialists or one that allows you to access out-of-network services. You should be able to find in-network or out-of-network plans for each "metal" level. Examples are:

■ **Exclusive Provider Organization (EPO).** This care plan requires that medical services be obtained from within the insurance plan's network of doctors, specialists, and hospitals. Only emergency care is exempt.

■ **Health Maintenance Organization (HMO).** An HMO is similar to an EPO. It limits coverage to doctors who work for or are contracted with the HMO. An HMO may require you to live in its service area to qualify for coverage. Emergency care from outside the network is covered.

■ **Point of Service (POS).** With this plan, you pay less if you use in-network services and providers. You need a referral from your primary care physician to see a specialist, and you pay more for out-of-network services.

■ **Preferred Provider Organization (PPO).** You pay less if you use in-network services, but you can use out-of-network services and specialists without a referral—for additional cost.

Regardless of the metal tier or type of plan you select, certain essential benefits will be covered. A deductible, copayment, and coinsurance may apply, but the service cannot be denied. For an insurance company to participate in the ACA marketplace, these essential health benefits must be covered:

- Addiction treatment
- Ambulatory patient services
- Birth control
- Care for newborns and children
- Emergency services
- Hospitalization
- Laboratory services
- Maternity care
- Mental health services
- Occupational and physical therapy
- Prescription drugs
- Preventive and wellness services

One thing is clear about healthcare for the little guy in the United States: You pay. You pay upfront via premiums, or you pay on the back end via total out-of-pocket costs. Healthcare in our country is less a healthcare system than it is a health insurance system.

Government subsidies. So, how does a would-be entrepreneur in the construction trades, or any field for that matter, start their own business, create jobs, and make any money when health insurance is so expensive? Our economic system depends on people starting their own businesses, growing their businesses, employing others, and stimulating local economies. There is assistance available. In addition to providing health insurance plans, the ACA Marketplace offers federal subsidies to those who qualify. If Tesla, GM, and Ford don't hesitate to take a \$7,500 subsidy from Uncle Sam for each electric vehicle they sell, why should you hesitate to help your family and your business?

Cost sharing. Government health insurance assistance includes Cost-Sharing Reductions to lower out-of-pocket costs and Advanced Premium Tax Credits to lower monthly premiums. This assistance may make insurance affordable or might make a better plan more affordable. During the Marketplace's open enrollment period, October 15 to December 15 (though this varies by state), you open an account and fill out an application, and the Marketplace will tell you if you qualify for assistance. If your income falls

between 100% and 250% of the federal poverty level, you may be eligible for cost-sharing assistance, which can lower your deductibles, copayments, and coinsurance. You must purchase a silver plan to qualify for cost-sharing.

Tax credit. To qualify for a premium tax credit, your income needs to be between 100% and 400% of the federal poverty level. Based on 2023 poverty levels, the income amounts for a family of four are \$27,750 minimum and \$69,375 maximum for cost-sharing, and \$27,750 minimum and \$111,000 maximum for a premium tax credit. The minimum and maximum for assistance will vary by family size. The minimum and maximum for a premium tax credit varies from \$13,590 to \$54,360 for household of one to \$46,630 to \$186,520 for a household of eight.

If you're healthy, a bronze plan may be your best option. If you have a lot of medical expenses, a higher-premium gold or platinum plan may be less expensive in the long run.

Also, the ACA has a plan for small businesses. Small businesses, 1 to 50 employees, can participate in the Small Business Health Option Program (SHOP). SHOP plans are a way to qualify for Small Business Health Care Tax Credits.

SUMMING UP

Is healthcare a basic human right? Would the construction industry benefit from universal healthcare or Medicare for all? These are tough questions to answer and way above my pay grade. As a citizen concerned about my fellow workers and countrymen, yes, I would love for all of us to have access to good, affordable healthcare and to a healthcare system that educates and encourages healthy behavior (which has been found to have more of an effect on life expectancy than access to healthcare). We have the best healthcare professionals in the world and spend twice as much as other western industrialized countries, but we do not provide the best healthcare for our citizens. According to the CDC National Center for Health Statistics, 28 million Americans did not have healthcare in 2021. Many of them were in the construction trades. Would the construction industry and the country benefit from a better, more-affordable system? I have to say, yes. All workers and citizens would be covered, and a portion of the money saved by each family would find its way into homeownership and home improvements.

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