Change Order Guidelines: Quick Reference
Introduction

Change orders are an essential part of every construction project. These are issued to accommodate changes to the construction contract. Electrical and low voltage contractors are routinely asked to prepare change order proposals on construction projects. The single most common area of dispute in the change order process is its cost. Among cost-related disputes, items related to recoverable direct cost, overhead-profit %, and impact factors resulting in consequential costs constitute a vast majority of the disagreements. The purpose of this Change Order Guidelines is to provide a fair and reasonable process for the costing and pricing of change orders.

Guiding Principles

- Changes in the scope of work may be inevitable, however a greater effort to diminish the volume of contract changes on construction projects is strongly encouraged.
- When changes become necessary, change orders should have a 30 days maximum turnaround. Contractors should submit an appropriately prepared quotation within 15 days and owners should approve/reject within 15 days.
- Change Orders should be fairly and reasonably priced and payment of approved changes should conform to contract terms.
- Contractors are entitled to overhead and profit.
- Reasonable disclosure of costs is encouraged, while excessive requests can be counter-productive, cause delays, and give rise to additional costs.
- If it is necessary to issue a Change Directive in advance of approval pricing and all related approvals, this formal direction to proceed should not diminish the urgency to negotiate a final change order price.
- The parties should be proactive in resolving disputes, and every effort should be made to ensure that these disputes will not impact the balance of the project.

Change Directive

According to clause 7.3.1 of the AIA standard Document A201-2007 and clause 8.2 of the ConsensusDocs standard document 200-2012, the owner may issue a written order directing a change in the work prior to agreement with the contractor on the adjustment, if any, in the contract price or the contract time or both.

After a Change Directive has been issued, both parties must negotiate expeditiously and in good faith for adjustments to the contract price and/or the contract time, and then record this agreement in a Change Order.

Change Order

According to clause 7.2.1 of the AIA standard Document A201-2007 and clause 8.1 of the ConsensusDocs standard document 200-2012, a change order is defined as a written order, agreed upon by the owner, the contractor and the designer, authorizing changes to the scope of the work, the contract sum, and the contract time.

Low Voltage Contractors

Low Voltage (LV) contractors have certain unique aspects as compared to medium voltage or high voltage electrical contractors. Many electrical contractors are diversifying their business by adding LV capabilities. If LV contractors are not part of an electrical contractor firm, they generally work as their subcontractors. But, in instances where LV work is part of an overall “controls” contract, electrical contractors may end up working as subcontractors to “controls” contractors. LV contractors are generally the last one out on a project and, this aspect, many times, has impact on their change order pricing. For example, the overhead and consequential costs have additional significance for LV contractors because of their unique role on a project.
Labor Rate*

The Labor Rate is the actual fully burdened cost per hour of labor consumed. It consists of, but is not limited to, the following:

- Base Rate (A)
- Taxable Fringes (B)
  - Vacation
  - Sick Pay
  - Holiday
  - Others
- Non-Taxable Fringes
  - Health and Vision Insurance
  - Life Insurance
  - Accidental Insurance
  - Pension / Retiree Benefits
  - Apprentice / Training
  - Service Charges
  - Others

(*Labor Rate is on a journeyman basis unless specified otherwise)

Labor Hours Calculation

In absence of agreed to pre-authorized rates and units, it is strongly recommended that industry standard Labor Units are used in calculating labor units required to complete a change notice. Labor units shall be derived from the NECA Manual of Labor Units, MCAA Labor Estimating Manual and other such standardized trade units that may exist. It is understood that mitigating circumstances may exist that impact such standardized units.

Each change may have a variety of non-typical or abnormal factors that will require adjustments. As per NECA Manual of Labor Units, the following factors should be considered for adjusting non-typical projects and site conditions:
Impact Factors Affecting Productivity

There is a need to discuss the adverse effects on labor productivity resulting from causes beyond the direct control of the contractor.

A study of these productivity impact factors may be helpful in preparing original estimates and change orders. The individual items and titles proposed, cover a description of conditions without necessarily including each detailed condition that may be involved. The values are a percentage to add onto labor hours of the change.

The factors listed in Table 1 are intended to serve as a reference only. Individual cases could prove to be too high or too low.

Table 1: Impact Factors Affecting Productivity

<table>
<thead>
<tr>
<th>PERCENTAGE OF LOSS IF CONDITION:</th>
<th>Minor</th>
<th>Average</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. STACKING OF TRADES</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>2. MORALE AND ATTITUDE</td>
<td>5%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>3. REASSIGNMENT OF MANPOWER</td>
<td>5%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>4. CREW SIZE INEIFFICIENCY</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>5. CONCURRENT OPERATIONS</td>
<td>5%</td>
<td>15%</td>
<td>25%</td>
</tr>
<tr>
<td>6. DILUTION OF SUPERVISION</td>
<td>10%</td>
<td>15%</td>
<td>25%</td>
</tr>
<tr>
<td>7. LEARNING CURVE</td>
<td>5%</td>
<td>15%</td>
<td>30%</td>
</tr>
<tr>
<td>8. ERRORS AND OMISSIONS</td>
<td>1%</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>9. BENEFICIAL OCCUPANCY</td>
<td>15%</td>
<td>25%</td>
<td>40%</td>
</tr>
<tr>
<td>10. JOINT OCCUPANCY</td>
<td>5%</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>11. SITE ACCESS</td>
<td>5%</td>
<td>12%</td>
<td>30%</td>
</tr>
<tr>
<td>12. LOGISTICS</td>
<td>10%</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>13. FATIGUE</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>14. RIPPLE</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
</tr>
<tr>
<td>15. OVERTIME</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
</tr>
<tr>
<td>16. SEASON AND WEATHER CHANGE</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Labor and Project Supervision

Labor Supervision is the costs of providing direction and supervision on projects. It includes Foremen and General Foremen. Project Supervision is the cost arising from the coordination and management of a project. It includes Superintendent, Project Engineer, and Project Manager. A percentage of the total labor hours should be added for the supervision.

Other Labor-Related Costs

Other labor-related costs may include room, board & travel allowance; change order preparation and processing; and estimating and expediting costs.
Material and Equipment

Material and equipment cost must be fair to both parties and mutually agreed upon. The material price will include transportation, storage & handling, temporary facilities, inspection & testing, non-hazardous waste clean-up, restocking and cancellation, possible loss due to price escalation, waste, damage, vandalism, theft, all applicable taxes, etc.. It will be based on Trade published prices like Trade Service and adjusted for the specific project conditions. Similarly, the equipment price will include rental (if applicable), transportation, storage & handling, temporary facilities, inspection & testing, small & hand tools not owned by workers, etc. The equipment rates will be based on NECA Tool & Equipment Rental Schedule.

Shop Expenses

These are all the expenses associated with the operations and maintenance of fabrication facilities including:

- Facilities
- Shop Labor
- Material procurement, handling, delivery, inventory control
- Equipment costs including maintenance and depreciation
- Operating Costs including utilities, rent, insurance, consumables, etc.

Job Cost/Expenses

Job Costs/Expenses are all costs necessary for the performance of a contract that cannot be tied directly to the labor, material, or equipment costs.

- Bonds, Security and Project Insurance
- Sales Taxes
- Permit Fees
- Subcontractor Costs
- Job Office-related Operations Costs
- Licenses and Certifications
- Special Consultants’ Fees
- Safety Measures and Equipment
- Water, Power and Fuel Costs
- Mobilize and Demobilize Costs
- Special Project Requirements (e.g., LEED)
- Drawings Documents and Printing
- Parking
- Guarantees and Warranties
- Others

Consequential Costs due to Impact Factors

Consequential costs are incurred when the timing and the scope of a change order work affects the cost of the change order and/or overall project cost or duration. The factors impacting these costs are referred to as impact factors.
Liquidated Damages

Liquidated damages are a pre-determined sum agreed to in a contract that is recoverable if specific conditions, such as schedule, of that contract are not met. Change Orders may effect and even nullify liquidated damages clauses contained in contracts.

Overhead

Overhead expenses are administrative expenses of a business which cannot be allocated to any specific project, but are necessary for the business to operate. Typical components include:

■ Home Office-Related
  • Personnel: salaries, benefits, bonuses, etc.
  • Office Utilities: telephone, internet, gas, electric, water, etc.
  • Office Equipment: computers, data, photocopy, fax, etc.
  • Office Furniture
  • Education and Training
  • Company-wide Safety Initiatives
  • Business Licenses
  • Corporate Business Insurance
  • Legal Fees, Accounting and Royalties
  • Advertising and Marketing
  • Autos and Auto Insurance
  • Storage and Equipment Yard
  • Shop Operations
  • Dues and Subscriptions
  • Rent or Mortgage
  • Property Taxes
  • Others

■ Project-Related
  • Estimating (not related to C.O.)
  • Scheduling (not related to C.O.)
  • Timekeeping (not related to C.O.)
  • Others

Profit

Profit is to compensate for risk, effort and return on investment.

This document is based on:

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