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Owners – Make Your GMP Contract Work Effectively

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There are three basic types of construction contracts: lump sum, unit price, and cost reimbursable. Each contract has its advantages and disadvantages and the choice of which type to use relies on the owner's needs and circumstances, and the benefits that can be derived from one type over the other.

- A lump sum contract is most effective when the owner has completed the design, is not schedule driven, is committed to no significant changes, and the construction bid climate is favorable [7].
- Unit price contracts are appropriate when the work to be done can be quantified in multiple units with the same specifications such as highway construction in miles, or military barracks of the same size, shape, etc., And,
- Cost reimbursable contracts are most frequently used because most construction projects do not fit the lump sum or unit price requirements.

In cost reimbursable (also known as cost-plus) contracts the owner pays the actual cost of construction plus the contractor's profit. Variations of the cost-plus contract have been developed to include cost plus a fixed fee, cost plus an incentive fee, and cost plus a fee with a guaranteed maximum price.

A guaranteed maximum price (GMP) contract is a cost-plus contract under which the contractor is compensated for actual costs incurred, plus an agreed upon and specified fee, not to exceed a guaranteed maximum amount. The contractor is responsible for cost over-runs except for formal change orders as a result of requirements and authorization by the owner. Cost under-runs are distributed per the terms of the contract. Generally, under-runs accrue directly to the benefit of the owner but they may be shared with the contractor in certain circumstances.

The most typical GMP contract starts with an American Institute of Architects (AIA) document entitled "*AIA Document A111 – 1997, Standard Form of Agreement Between Owner and Contractor where the basis for payment is the COST OF THE WORK PLUS A FEE with a negotiated Guaranteed Maximum Price* [1]." This document is an excellent starting point, but it was developed primarily by architects and contractors. Consequently, it has several pitfalls for owners. Among these are a lack of specificity as to what labor burdens are allowed, inadequate change order requirements, no clear instructions that reference the administration of the subcontractor buy-outs, and 4) inadequate provisions that reference the contractor self-performing work. Owners need to alter this type of document to reduce owner risks.

LABOR BURDENS

Article 7 of AIA Document A111 discusses *Costs to be Reimbursed* including labor and labor burdens. Owners need to make sure that their contract specifies what labor burdens are allowed. Typically, labor burdens can be grouped into two categories – statutes and benefits. Statutes (or taxes) are those burden costs that are required by law (or statute). Benefits are Human Resources administered benefit programs provided to contractor employees. Table 1 lists the most consistently required taxes and commonly provided benefit categories.

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Labor and Labor Burdens*	%	\$
Bare Direct Labor** (<i>Individual</i>)	100.00%	\$18.00
(Project level = Wtd. Ave. Actual Pay Rate, Including laborer, journeymen, foremen - if any.)		
Labor Burdens		
Statutories (Required by law/statute):		
FICA (Social Security)	6.20%	\$1.12
FICM (Medicare)	1.45%	\$0.26
FUTA (Federal Unemployment)	0.30%	\$0.05
SUTA (State Unemployment)***	1.30%	\$0.23
Worker's Compensation****	2.68%	\$0.48
Other (Verify vs. the contract)	0.00%	\$0.00
Subtotal Statutories	11.93%	\$2.15
Employee Benefits (Employer Provided):		
Holidays	2.00%	\$0.36
Vacations	2.00%	\$0.36
Retirement (Pension, 401K, etc.)	2.50%	\$0.45
Group Medical/Dental/Vision	10.00%	\$1.80
Disability Insurance	1.35%	\$0.24
Accidental Death & Dismemberment (AD&D)/Life	0.20%	\$0.04
Other (Verify vs. the contract)	0.00%	\$0.00
Subtotal Benefits	18.05%	\$3.25
Total Direct Labor	129.98%	\$23.40
*Percentages and dollar amounts are theoretical, actuals will vary.		
**Bare Direct Labor (BDL) is gross wages/salaries paid directly to individuals.		
***State rates vary as does the base on which the rate is applied.		
****This can vary depending on the job classifications and contractor experience.		

Table 1 – Labor Burdens [2]

Care must be taken to ensure that the language in the contract allows these labor burdens and no others (except as may be required by local law or union contract). If there is any doubt, the owner should modify the contract language to specify these burden items only. The contract language needs to further state that these burdens are billable at actual cost as incurred by the contractor. For example, the Federal Unemployment Tax (FUTA) sets the rate at 0.8 percent of bare direct labor up to a maximum of \$7,000 per employee per year. Thus the maximum FUTA tax per contractor employee is \$56. Many contractors have their computer programmed to calculate the official tax liability (\$56) but have billing software that is different and oftentimes it applies the 0.8 percent to all wages earned for the entire year.

State Unemployment Tax (SUTA) rates may also apply to a bare direct labor base amount that may be less than the annual wages paid to a worker. The absolute delta between the SUTA rates applied to the statutory base versus the total annual wage can be more significant than with FUTA.

The most significant risk area within statutorily required labor burdens may be Workers Compensation. Workers compensation laws establish rates based on the type of work an employee performs – office worker, carpenter, brick mason, painter, etc. These rates are specified in amounts per \$100 of payroll (for example, masonry at \$6.67/\$100). Contractors will typically use this calculation to determine the amount to bill out. Oftentimes, variable discounts and credits are not passed through to owners. When these discounts and credits are applied, they can reduce the total Workers Compensation costs by over 50 percent. On large, labor intensive projects, this can amount to hundreds of thousands of dollars.

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Employee benefits must also be billable to the owner at actual costs. Healthcare costs that are partially paid by the contractor's employees via payroll deductions should not be passed on to the owner. It is also important to ensure the contract language applying to changes continue these protections of owners' interests.

CHANGE ORDERS

It has been said that contractors make more profit from change orders than they do from the main contract and this statement may be true. The AIA contracts, as written, allow contractors significant latitude with how the cost of changes in the work may be billed. Owners must recognize that change orders do not benefit from a competitive bidding environment; therefore they must ensure their contract contains well thought out provisions and detailed language to reduce their risk to over-charges associated with the cost of additional work.

Article 7 of AIA Document A201, General Conditions of the Contract for Construction, deals with Changes in the Work. Owners are encouraged to modify and expand this section to address how change orders will be estimated and administered; how costs will be managed and controlled; and whether the cost of the change will be funded by draw-downs of a contingency or an allowance, or result in an increase in the GMP.

Additionally, the language must require that any extension of the project schedule must be clearly indicated and considered when determining the cost of the change.

Given that the base contract is cost-plus, all change orders should be priced cost-plus. Also, since change orders do not benefit from a competitive bidding process, change order estimates/cost must be fully auditable by the owner regardless of the method of pricing.

All change orders should be supported by a "cost of change worksheet." Owners need to ensure their worksheet is designed to provide the full and complete cost of the change. Typically the worksheet includes:

- **Materials** – *the estimated cost of miscellaneous (low unit cost) materials that are required to perform the scope change work.* A description of the materials with estimated quantities (as practical) should be attached to assist the architect and the owner in evaluating the contractor's price for the change. A detail listing of nuts, bolts, and screws, for example, is impracticable and not needed but can be grouped in a category such as "All Other."
- **Equipment** – *the purchase of all equipment items (with unit costs greater than say \$250) that are required.* The estimated cost of each equipment item should also be shown on attachments. The owner's contract should require that actual costs of equipment must be reconciled to the estimated cost included in the change order. Variances of actual cost versus estimated cost in excess of \$250 (or any threshold required by the owner) per item should be incorporated in an alteration, to the original change order, that adjusts the cost billed to the project.
- **Rental Equipment** – *all rental equipment should be itemized on an attachment that provides adequate descriptions to identify the equipment (type, size, model number, etc.), the length of time required, unit rates, and any related costs (fuel, insurance, etc.).* The contract should specify that rented equipment will be reimbursed at actual cost (supported by receipts under audit) not to exceed the prevailing rates in the local market. Contractor owned equipment that is uniquely required (not already on the yard) for the change work should be billed at 75 percent (to prevent duplication of overhead and profit and other items separately billable under the contract) of the prevailing rates in the local market.
- **Labor** – *the contract should specify that labor will be estimated by job classification, showing hours, bare direct labor rates, and labor burden percents.* No other mark-ups should be allowed. Additionally, the owner should specify that estimated labor rates must be aligned with actual wages to be paid and that labor burdens must include statutes and benefits as shown in table 1.
- **Other** – *any other costs as may be required and approved by the owner.*
- **Overhead & Profit** – *the mark-up that will be allowed.* That mark-up should then be applied to the sum total of the above categories.
- **Subcontract Work** – *If the change order will require work by a subcontractor that too must be included in the estimated cost of the change.*
- **Overhead & Profit on Subcontract Work** – *contractors may mark-up subcontractor (lower tier) costs to provide for their effort to procure and manage the subcontractor while it is on site.* This mark-up should also be specified in the owner's contract and usually is less than the mark-up on self-performed work.
- **Total** – *All of the above costs must be totaled and included on the change order request for approval and authorization.*

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A typical format for a “cost of change worksheet” is shown in table 2. The actual cost of change worksheet is likely to be two pages with attachments.

<u>COST OF CHANGE WORKSHEET</u>	
Owner’s Project Title: _____	Date: _____
Owner’s Project Number: _____	
Description of Change Order Work: _____	
A. Materials (attach description/breakdown/estimate)	\$ _____
B. Equipment (attach list, quantity and unit rate for each)	\$ _____
C. Rental Equipment (attach list, duration and unit rate for each)	\$ _____
D. Labor (attach itemized breakdown by job classification; show hours, rate, and labor burden separately)	\$ _____
E. Other (attach details and justification)	\$ _____
F. Subtotal (A thru E)	\$ _____
G. Overhead and Profit (per contract Section XXX)	\$ _____
H. Subcontract Work (same breakdown as above)	\$ _____
I. Overhead & Profit (on lower tier Subs’ work, per the contract)	\$ _____
TOTAL (F through I)	\$ _____
_____ Architect	_____ Date
_____ Contractor	_____ Date
_____ Owner	_____ Date

Table 2 – Cost of Change Worksheet

Some change orders that are essential for proper financial administration of a GMP contract should result from the General Contractor’s buy-out of the subcontracts.

Subcontractor Buy-outs

One pitfall of GMP contracts, especially for the inexperienced owner, is that general contractors may buy-out the subcontracts at amounts less than the guaranteed maximum prices (as is expected), and transfer the variance to their indirect costs or self-performed scopes of work [4]. This may occur without visibility to the owner. Owners need to make sure their GMP contracts contain language that prevents this transfer. Since subcontracts will be bought-out over time, some appropriate language might include the following:

- As soon as possible after executing contracts with the subcontractors, the GC is to reconcile the buy-out amounts to the authorized budget and prepare a change order that adjusts the subcontract line item values as appropriate. The net under-run(s) will be transferred to the owner’s contingency for possible re-use (i.e. to fund future change orders). There will be no change in the total GMP budget. Several subcontracts may be included (but detailed) within the same change order.
- Additional change orders should be issued monthly until all subcontracts are bought-out. As the buy-outs are completed, the GC will adjust the Schedule of Values accordingly and insert the subcontractors’ name and subcontract value under each Construction Specification Institute (CSI) work breakdown structure division.
- Additionally, after the buy-outs are completed, the general contractor’s contingency must be re-evaluated. The owner and the GC will negotiate a drawdown of the GC’s contingency considering the risk reduction impact of

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the buy-outs. Any adjustments in the contingencies will not affect the GC's obligation to complete the project within the GMP amount.

The standard pay application (*AIA Document G702*) that the General Contractor submits to the owner typically shows the CSI divisions and costs that total to the authorized GMP budget. One common practice is for the GC to bill the owner at a rate of 100 percent of each line item value without ensuring alignment with actual costs. That, of course, is not appropriate for a cost of the work/GMP contract. By requiring the GC to reconcile the actual subcontract to the GMP budgeted amount, and then "change order" the variance to the owner's contingency, the owner can ensure 100 percent billing of each line item is aligned with actual costs.

SELF-PERFORMED WORK

General contractors always need some monies to fund their field staff, field offices, temporary utilities, temporary facilities, etc. These funds are provided via a General Conditions Budget. The Budget should be in sufficient detail to enable the owner to assess the data for reasonableness and to facilitate cost management as the work progresses. What is most effective is to specify in the contract that all General Conditions expenses be billed at actual cost and be fully auditable by the owner or the owner's representative. "Home office overhead is almost always included with the profit in the general contractor's estimate summary [6]."

General contractors may also propose that they perform some packages of work such as general works and cast-in-place Concrete. In some instances GCs will offer to administer the bid process for these packages of work. Administering the bid process should not be allowed because it creates a conflict of interest, discourages other would-be bidders, and reflects unfavorably on the owner in the eyes of the construction community. If the owner agrees that the GC may participate in the bid process for such packages of work, the owner must accept responsibility of administering the bid process(s).

When the GC has some preferred knowledge about the owner's facility, or possesses unique skills of value to the project, or the scope of the work requires that it be performed in phases that are difficult to schedule, the GC may be the best provider of the services. General works (GW) is frequently self-performed by GCs. When the owner agrees the GC may perform the GW, the scope of work needs to be sufficiently detailed to enable the owner or its representative to analyze the estimated cost of the work. All GC self-performed work (general works, cast-in-place concrete, etc.) should be at cost and be fully auditable.

FINANCIAL ADMINISTRATION

Architects typically include within their contract with the owner provisions that they will administer the owner's construction contract with the general contractor. They also have a separate standard contract document (*AIA B144/ARCH-CM-1993*) whereby they may provide "construction management" services as an adviser to the owner. Additionally, the *AIA B209 – 2005* document is a contract whereby one architect agrees to administer the construction contract for the owner although the design was performed by a different architect. In none of these cases does the architect agree to perform the financial administration of the contract with the GC. Most architects do not have the expertise, or the inclination, to provide financial administration services.

What do architects do when they administer the construction contract? Simply stated, they perform the operational administration of the contract. They monitor the GC's work for quality, issue construction change Directives, prepare/issue change orders, assess progress and completion status of the work, authorize pay applications, and in general make sure the finished facility performs as intended, among other things. These services are essential to the success of any project.

For a fixed fee, an independent program/project manager acts as an agent of the owner and typically provides extensive operational contract administration. This method alleviates any conflict of interest because the independent manager is not connected to the architect nor to the general contractor. However, program/project managers do not usually possess the skills or the inclination to perform financial administration duties. "Typically, project managers provide a broader scope of services than they would as a traditional prime consultant, including such tasks as program definition; development of conceptual design; and pre-design-, design, construction-, and postconstruction- design services [5]." Program/project managers also usually do not possess the skills or the inclination to perform financial administration duties.

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Generally, the owner or an owner's representative provides the financial oversight. The owner needs to ensure that its contract provides for this service and specifies by whom and how these services will be performed. Many owners, architects, and project managers do not even understand what financial administration of a construction contract involves. Thus there is a void within the project team which can be very expensive to the owner. (For a more detailed discussion of financial administration refer to the *Financial Administration of Construction Contracts by Owners* by this author and published by the AACE International [3]. This document may also be found at dougcreechaudits.com.)

Cost of the Work Plus a Fee with a Guaranteed Maximum Price contracts are widely used and typically start with an AIA (or perhaps an Associated General Contractors, or other) base document. Owners must recognize that these documents, while very good as initially published, require some alterations to adequately protect an owner's best interest. Some of the highest risk areas involve labor burdens, change orders, the subcontractors' buy-out process, general contractors self-performing work, and the financial administration of the construction contract. When properly strengthened and financially administered, the GMP contract can become an owner's contract of choice.

REFERENCES

1. "AIA Document A111 – 1997, Standard Form of Agreement Between Owner and Contractor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price," American Institute of Architecture, Washington, D.C. (1997).
2. Creech, W. Doug, "Financial Administration of Construction Contracts by Owners," **2006 AACE International Transactions**, Own.01, (June, 2006).
3. Creech, W. Doug, "Sarbanes-Oxley and Cost Engineering," **Cost Engineering**, Vol. 48/No. 7, (July, 2006).
4. Holloway, Steve, "Pitfalls in Cost-Plus Contracts," **Under Construction**, The Newsletter of the ABA Forum on the Construction Industry, (March, 2003).
5. Schinnerer, Victor O. & Co., AIA Best Practice 10.01.01, *Briefing on Alternative Service Delivery Methods*, revised December, 2006, American Institute of Architecture, Washington, D.C. (2006).
6. Strychaz, Stanley J., ed., et al, **2007 Current Construction Costs**, 44th Edition, Saylor Publications, (2007), p. 25.
7. Zack, Jr., James G., **Skills & Knowledge of Cost Engineering in Contracting for Capital**, a product of the Education Board of AACE International, Dr. Scott J. Amos, PE, Editor (2004).



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