THE ACADEMY OF ELECTRICAL CONTRACTING

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Are We Working Ourselves Out Of Business?

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Are we working ourselves out of business?

To properly answer this question, let us ask a far more basic one.

Why are we in business?

The most simplistic reply, aside from community standing, recognition, being your own boss, etc., can be summed up in one word -- "Profit." Excluding the people that are in business for masochistic reasons, most of us work for the "extra return" to which we should be entitled in this risky business. This extra return, we hope, will give us the ability to expand and grow through reinvestment of capital into our companies and also allow us some of the misery we like, such as traveling, hunting, fishing, etc. We could, after all, put the operating capital we have into some safe, interest-bearing account--with little or no risk--and receive a modest return. This, however, is rarely sufficient to allow us the luxuries we would like to enjoy.

Profit, then, is our motivating factor - the reason we decided to go into business and also the reason we would wish to remain in business.

Profit is defined as "financial gain."

It is "the amount left over after all costs are deducted."

Since the majority of our work is based on lump sum contracts, which are based on cost estimates, we must, most importantly, know what our costs are. If we are careless in the preparation of our estimate or in the execution of the work or in the control of the costs on the project, the amount "left over" - the profit - is an indeterminate quantity. A sufficiently large job could cause any of us to "work ourselves out of business." The most important item to be examined, then, is our cost.

Much has been written on the subject of cost and most of us think we have a pretty good handle on it.

Do we?

Let us briefly look at the items that make up the amount classified in an estimate as "cost."

1. Material
2. Labor
3. Subcontracts
4. Job Expenses
5. Overhead
6. Cost of money

Do you, in the preparation of an estimate, consider each of the above items?

The answer is probably -- no.

Item 6 has an effect on each of the other categories, particularly in view of the current inflationary economic climate.

In order to investigate what happens to our costs and consequently our profit, if we ignore the "cost of money," we must determine how each of the items above is affected by the current inflation rates. It goes without saying, not every commodity has been subject to the same inflationary pressure. Some items of our cost have escalated beyond the "averages" indicated. Others have not.

According to Labor Department Statistics, here is what has happened to our consumer dollar:

*From Industry Week

1967		100	base year
1971		121.3	
1975		161.2	
1976		170.5	
1977		181	
1978		195.4	
1979		217.4	
1980	1st quarter	236.5	
	2nd quarter	245.0	
	3rd quarter	249.6	
	4th quarter	255.8	-- estimated
1980	Average	246.7	
1981	Forecast	272.1	

It becomes very obvious from the table that anything that could be purchased in 1967 for $100.00 would have cost nearly $256.00 if bought in the last quarter of 1980.

A 1967 dollar had a value, the 1977 dollar had a different value and the 1981 dollar will be a substantially different value yet.

It would be foolish to add 500 of each of the different types of currency, say Dollars, Pesos and Marks, without converting these currencies to some common base.

So it is when we take 1967, 1977 and 1981 dollars and add them without conversion.

To determine the economic well being of our Companies, we must add apples to apples for an accurate picture.

The value of our money is consistantly decreasing.

Let us go back and see how our various categories of cost are affected by this trend.

Material

It is virtually impossible today to place a non-escalating purchase order to materials that may not be required at the job site for a year or so. This leaves us with a number of choices to be considered.

Do we get paid for stored materials? Can we collect the full amount or is retainage withheld?

Assuming we can get paid for these stored materials, less the customary retention (as is standard in many public contracts), we would be confronted with a losing proposition. First the materials must be double handled and secondly the retainage, when finally paid, has cost us interest and may not have the same purchasing power that it had when we paid our supplier. The cost of this money must be included in our costs. It cannot be ignored -- we cannot afford to gamble and end up with higher material costs than estimated or anticipated -- especially on long term projects.

Another alternative is to purchase all the materials and "fix" the price we pay. In this case, we recover the funds only upon installation and acceptance by the Owner, and, the cost of money spent and not collected becomes a large factor and must be seriously evaluated.

A third alternative is to buy the materials when needed and as the project progresses. The gamble here is that prices may have escalated beyond those included in the estimate.

Labor

This is the one item of cost least affected by inflation. We generally have a good idea what the labor rates are and what benefits must be added into the labor number to arrive at an estimated cost.

Yet, do we know what our productivity is going to be?

In the simplest terms, productivity means -- an amount of work (goods or services) produced per unit of time. If we can produce more in the same amount of time or produce the same quantity in a lesser period of time, our productivity is up. If you are paying more to accomplish the same thing you did yesterday, your productivity is down.

Increasing productivity -- i.e., producing more for less money, obviously means more profit. Without profit we can't become more productive. We will examine this concept in more detail later.

Subcontracts

Subcontracts generally cause us little trouble, provided we properly negotiate them and make our subcontractors subject to the same contractual obligations as we are with the Owner. This passes the results of inflation on to the sub and does not affect our profit.

Job Expenses

The items included in this category are numerous and vary from one firm to the other. We will only consider the cost of tools and equipment.

Many contractors have attempted to make the warehouse a "profit center." There are many approaches to accomplishing this. Major tools and trucks can be bought or leased. Each contractor has to ask himself as to

which method suits his particular business best. When contemplating buying major tools and equipment, the price of money, particularly the replacement of tools, plays an important role in how the cost for these items is allocated. A large bender bought 10 years ago has a substantially higher replacement value today, and proper allowances need to be made in your charge to job expense to provide the capital to replace it.

Overhead

Overhead is probably the most written about, talked about, subject in our business. We often do more to control overhead than we do controlling our field labor.

The overhead costs we incur are, however, affected by inflation. If our application of overhead to an estimated cost consists of simply adding a percentage and we have taken inflation into account when evaluating our costs, we will have increased our overhead budget. Increased car costs, fuel prices, electricity and telephone costs have all risen disproportionately. There are areas of overlap between labor, job expenses and overhead that must be clearly accounted for and properly allocated. Social Security, not only for the field forces, but also for our office staff, Worker's Compensation, taxes, insurances, etc. are constantly on the increase. The percentage applied years ago will no longer cover the escalating costs. A constant monitoring process will ensure the proper overhead percentage application.

Cost of Money and Inflation

How many of us include an item of cost on our front sheets labeled "Cost of Money and Inflation"? The answer is probably very few.

To be very realistic -- we are in a very competitive industry. We spend a lot of time evaluating our competition. If Contractor A does not include a cost for the use of his money and Contractor B does, you can guess who will come up with the work. If our competition does not value for its proper costs, the inclusion of this item becomes a very academic discussion. Ignoring the cost of money may, however, get us a job. Do we really want it? We must collectively educate ourselves to make sure every contractor recognizes what the costs are, otherwise we are literally working ourselves out of business.

There are many ways of negotiating good jobs. A poorly designed project, that will be redesigned, after a contractor has come on board, may be a good risk. The ability to reprice the project, after the fact, may result in being able to include proper costs in the changed work.

We stated previously that we must add apples to apples when dealing with dollars from different years. Since the value of our money is constantly decreasing, let us see what could happen to our financial statements, if we ignore the cost of money and the decrease of purchasing power.

1. Assets would be carried as "old" dollars. The owned tool that cost $100.00 in 1967 is still functional and is carried at some depreciated value or not at all. To replace it would cost $250.00 or better. The stock that was purchased cost $10,000.00 three years ago. Half of it is used on a job and charged into cost at $5,000.00. We just made a good profit -- or did we? The material should have been charged at close to $8,500.00. As a result, our costs were understated.

2. Profits will be overstated because costs have not been properly charged. As shown in (1), depreciation or materials taken from stock, carried at old dollar values, not adjusted for inflation, will result in cost undercharges.

3. The relationship between the previous two items will cause an overstatement of return on investment.

4. Item (2) will cause too high a distribution of dividends or bonuses.

5. Potentially, an overstatement of profits will cause the corporate tax burden to be higher.

6. All the above will diminish our very vital operating capital, cause borrowing and prevent our companies from growing, or, at worst -- we are out of business.

The question might well be asked -- will inflation continue to plague us in the 80's and beyond?

The core rate of inflation has increased from 2% to a current level of 12% in the past 15 years. According to Dr. Evans of Evans Economics, Inc., in Washington, D. C., this 10% increase has been caused by the following:

6 percentage points due to the decline in productivity growth from 3% to 0% per year.

1 percentage point due to higher energy prices.

1 percentage point due to the cost of government regulation.

1 percentage point due to the decline in the dollar.

1 percentage point due to changes in institutional structures and inflationary expectations.

Let us just briefly look at the first item of 6% increase in the inflation rate.

In order to be profitable, a company must be competitive. This can mean locally competitive for a small firm or others, the large firm must be internationally competitive. To stay competitive requires keeping up with technology. We have to become more productive. This increase in productivity can only come from reinvesting in new and better equipment, or better installation methods. Where do the funds come from to buy this new equipment and invest in the new technology? The obvious answer is PROFITS. A company must stay profitable in order to stay competitive.

This reinvestment, or the lack thereof, is what is causing the majority of our inflationary pressure.

Germany and Japan have a much higher rate of investment than we do. In fact, their rates of investment as a percentage of Gross National Product are 23 and 32 percent respectively. Both countries are showing a healthy increase in productivity. We are investing 18% of our G.N.P. and our productivity growth is down to zero. But, we probably knew all that, just look at Chrysler and how it fares in the world market.

So, will inflation be a continuing factor for concern?

The answer is obviously -- yes, hopefully at a lesser rate -- but it will be with us and we have to learn to live with it and adjust to it.

Let's take a look at what happens to the markup or "profit" on a fairly common project. See Accounting Sheets.

Assumptions -- Case 1

Job Size	$792,563.00
Estimated profit 10% or	72,051.00
Cost	720,512.00
Duration	2 years

Payment: within 30 days of invoice date
Retention: 10% until job is 50% complete
0% thereafter
Retainage paid 30 days after completion
Interest rate: 18% per year
Inflation rate: 12% per year

Example 1

As can be seen from the accounting sheet, we were expecting to realize a profit of 10% or $72,051.00. Our projected costs came out on the button. Did we make our markup?

If you choose to ignore the cost of money, the answer is yes. If the cash flow deficit did not exist, that extra money would have worked for you. When you finally get the cash, it is not worth what it was when you billed it. As a result -- in Example 1 -- we in fact made

$72,051.00 - $32,630.00 = $39,421.00

or 5.47%

Example 2

Suppose we have a customer who does not pay within 30 days, but payments are delayed an additional 30 days. Further, let us make the retainage be 10% for the duration of the project, as is common. All other assumptions are the same as in Example 1. Now our profit is

$72,051.00	-	$56,068.00	=	$15,983.00

or 2.2%

At 2% we are not going to grow.

Needless to say, our approach to business is far more complicated than the foregoing discussion would indicate. In a relatively simplistic way, however, we have shown how important the consideration of "The Cost of Money" is.

Let us make our future in this industry a bright one by being fully aware of all the variables that go into our business equation. An all out effort to educate our competitors would also help keep us in business and making the profits to which we are entitled -- because we take the risks.

EXAMPLE 1

MONTH FROM START	MATERIAL COST	LABOR COST	JOB EXPENSE	OVER HEAD	TOTAL COST	COST PLUS MARKUP	MONTHLY BILLING
1	8000-	3000-	6025-	1703-	18728-	20600-	—
2	10000-	4000-	825-	1483-	16308-	17940-	20600-
3	10000-	4000-	825-	1483-	16308-	17940-	17940-
4	20000-	4000-	825-	2483-	27308-	30040-	17940-
5	18000-	4000-	825-	2283-	25108-	27620-	30040-
6	18000-	5000-	825-	2383-	26208-	28830-	27620-
7	15000-	6000-	825-	2183-	24008-	26400-	28830-
8	16000-	7000-	825-	2383-	26208-	28830-	26400-
9	20000-	8000-	825-	2683-	31708-	34830-	26830-
10	18000-	8000-	825-	2683-	29508-	32460-	34830-
11	15000-	8000-	825-	2383-	26208-	28830-	32460-
12	45000-	10000-	825-	5553-	61408-	67550-	28830-
13	15000-	10000-	825-	2583-	28408-	31250-	67550-
14	16000-	12000-	825-	2883-	31708-	34830-	31250-
15	12000-	12000-	825-	3183-	35008-	38500-	34830-
16	25000-	14000-	825-	3983-	43808-	48190-	38500-
17	28000-	15000-	825-	4383-	48208-	53020-	48190-
18	8000-	15000-	825-	2383-	26208-	28830-	53030-
19	12000-	18000-	825-	3083-	33908-	37300-	28830-
20	15000-	18000-	825-	3383-	37208-	40930-	37300-
21	10000-	20000-	825-	3083-	33908-	37300-	40930-
22	8000-	20000-	825-	2383-	31708-	34830-	37300-
23	6000-	15000-	825-	2183-	24008-	26400-	34830-
24	5000-	10000-	825-	1583-	17408-	19153-	26400-
25	—	—	—	—	—	—	19153-
	380000-	250000-	25000-	65512-	720512-	792563-	792563

(page 2- example 1)

PAYMENTS CASH	PAYMENTS RETENTION	TOTAL CASH	PAYMENTS RETENTION	CUMULATIVE COST	CASH FLOW DEFICIT	MONTHLY INTEREST	CUMULATIVE INTEREST	MONTHLY DEPR.	CUMULATIVE DEPR.	TOTAL INTER. DEPR.
				18728-	18728-	281-	281-	187-	187-	
18540-	2060-	18540-	2060-	35036-	35036-	526-	807-	350-	537-	
16146-	1794-	34686-	3854-	51344-	32804-	492-	1299-	328-	865-	
16146-	1794-	50832-	5648-	78652-	43966-	659-	1958-	440-	1305-	
27036-	3004-	77868-	8652-	103760-	52326-	784-	2742-	529-	1834-	
24858-	2762-	102726-	11414-	129968-	52100-	782-	3534-	521-	2355-	
25947-	2883-	128673-	14297-	155976-	51250-	769-	4303-	513-	2868-	
23760-	2640-	152433-	16937-	180184-	51511-	773-	5076-	515-	3383-	
25947-	2883-	178350-	19820-	211692-	59459-	892-	5968-	595-	3978-	
31392-	3488-	209772-	23308-	267608-	57836-	868-	7781-	578-	4608-	
29214-	3246-	238986-	26554-	329016-	90030-	1350-	9131-	900-	5186-	
25947-	2883-	264933-	29437-	357424-	92491-	1387-	10518-	925-	6086-	
60795-	6755-	325728-	36192-	389132-	63404-	951-	11469-	634-	7011-	
23125-	3125-	348853-	39317-	424140-	70337-	1054-	12523-	703-	7645-	
34880-	—	383733-		467948-	79218-	1188-	13711-	792-	8348-	
38500-	—	422233-		516156-	83923-	1334-	15045-	839-	9140-	
48190-	—	470423-		542364-	66941-	1004-	16049-	669-	10029-	
53030-	—	523453-		576272-	47319-	717-	16766-	473-	10698-	
33830-	—	557283-		613280-	56197-	843-	17609-	562-	11738-	
37300-	—	594583-		647388-	52305-	792-	18401-	523-	12266-	
40930-	—	635513-		679996-	43533-	654-	19055-	436-	12702-	
37300-	—	672813-		703104-	30291-	454-	19509-	303-	13005-	
34880-	—	707693-		720512-	12319-	192-	19701-	128-	13133-	
26400-	—	734093-			<13581->	<204->	19497-	—	—	
19153-	—	753246-								
753246	39317-	792563-								32630-

EXAMPLE 2

MONTH FROM START	CUMULATIVE COST	MONTHLY BILLING	PAYMENTS CASH	PAYMENTS RETENTION	TOTAL PAYMENTS CASH	TOTAL PAYMENTS RETENTION	CASH FLOW DEFICIT
1	18728-						18728-
2	35036-	20600-					35036-
3	51344-	17940-					51344-
4	78652-	17940-	18540-	2060-	18540-		60112-
5	103760-	30240-	16146-	1794-	34686-		69074-
6	129868-	27620-	16146-	1794-	50832-		79136-
7	153976-	28380-	27036-	3004-	77868-		76108-
8	180134-	26400-	24858-	2762-	102726-		77408-
9	211872-	25830-	25947-	2883-	128673-		83219-
10	241920-	34230-	23760-	2640-	152433-		89267-
11	267603-	32460-	25947-	2883-	178380-		89223-
12	289016-	25830-	31392-	3488-	209772-		119244-
13	357424-	67550-	29214-	3246-	238986-		118438-
14	389122-	31750-	25947-	2883-	264933-		124199-
15	424140-	34830-	60735-	6755-	325668-		98412-
16	467943-	38500-	28125-	3125-	353793-		114095-
17	516156-	48190-	31392-	3488-	385245-		130911-
18	542364-	53050-	34650-	3850-	419895-		122469-
19	576672-	28830-	43371-	4819-	463266-		113406-
20	613480-	37500-	47727-	5303-	510993-		102487-
21	647385-	40930-	25947-	2883-	536940-		110443-
22	679996-	37700-	33570-	3730-	570510-		108556-
23	703104-	34850-	36837-	4095-	607347-		95757-
24	720512-	24400-	33570-	3730-	640917-		79595-
25		19153-	31392-	3488-	672309-		48293-
26			23760-	2640-	696069-		24443-
			19153-		715222-	77341-	
			715222-	77341-			

(page 2- example 2)

ON T	MONTHLY INTEREST	MONTHLY DEPRECIATION	TOTAL INTER. & DEPR.
3-	281-	187-	
6-	525-	350-	
7-	770-	513-	
2-	902-	601-	
1-	1037-	691-	
6-	1187-	791-	
3-	1142-	761-	
3-	1163-	775-	
3-	1248-	832-	
7-	1335-	890-	
3-	1338-	892-	
1-	1783-	1192-	
3-	1776-	1184-	
9-	1363-	1242-	
2-	1476-	934-	
5-	1712-	1141-	
--	1964-	1309-	
9-	1833-	1225-	
5-	1695-	1130-	
7-	1538-	1025-	
3-	1656-	1104-	
--	1629-	1086-	
--	1437-	958-	
5-	1194-	796-	
--	723-	482-	
--	766-	244-	
	33683	22335-	56068