

Bulletin No. AF 3
File: Accounting & Finance

Cash Flow

INTRODUCTION

Effective cash management can mean the difference between success and failure for the mechanical contractor. A contractor actively managing its cash can produce greater profits and grow at a quicker pace as a result. The contractor that does not practice cash management has a much greater chance of failing when the company experiences cash flow problems or the economy turns down. The skill with which you manage your company's cash has a direct effect on your company's health and strength.

CASH MANAGEMENT FUNCTIONS

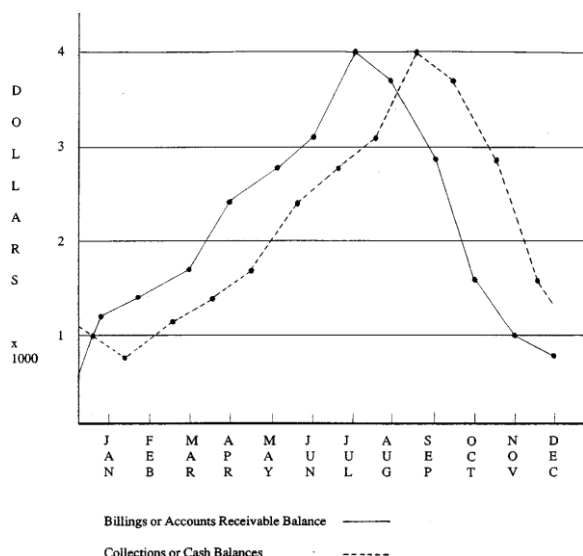
Cash management is the attempt to maximize cash as an investment and as a vehicle to meet current obligations. An effective cash management program for every contractor should include:

Forecasting Cash Flow

A cash flow forecast enables your company to predict future cash needs by exam-

ining past and future project billings, cost, overhead expenses, etc. The forecast can be prepared on a project-by-project basis, as well as for the company as a whole. Additionally, a cash forecast will help identify those periods when surplus cash is available for investment. An example of a simple cash flow forecast model is included as Table 1 located at the end of this bulletin.

Accurately forecasting cash flow can be difficult for the typical contractor because the seasonal nature of the construction industry often results in periods of excess cash on hand followed by periods of cash deficiencies. Following the high activity months, contractors generally have surplus cash on hand resulting from collections for work performed during the peak season. Cash deficiencies generally occur during the early part of the busy season as the contractor gears up for its peak season. A typical relationship between sales volume and cash collections for a contractor with very seasonal operations, assuming a constant 45 days age of accounts receivable, is illustrated in Figure 1.

**Figure 1.** Cash Flow Projections

As indicated in the Exhibit, this contractor may experience operating cash shortages during the months of January through August. During this period the workload is increasing and cash is needed to finance new projects. The cash shortage forces this contractor to stretch available cash, especially if the company is attempting to expand operations and increase work volume. If cash is not available, the contractor will have to make provisions to borrow during this period. During the months of August through December when cash flow is on the upswing, the company must determine how to make efficient use of the cash through investment or acquisition of equipment.

The above scenario is typical for many contractors. In regard to the cash fluctuations experienced each month, the same questions arise for those contractors attempting to take a progressive management style in operating their business. Some of these questions include:

1. What impact will the seasonal nature of the company have on the company's cash balances?

2. How does a contractor predict exactly when to borrow due to cash shortages or invest due to surplus cash?
3. How can a contractor reasonably determine which months the cash swings will occur and in what amounts?

The best management tool a contractor can use to answer these questions is the previously mentioned cash flow forecast.

A cash flow forecast is the most effective tool for predicting when your company will experience deficient or excess operating cash balances. The overall goal of forecasting cash flows is to maintain a satisfactory cash position while maximizing cash as an investment vehicle. Determining cash fluctuations, caused by the seasonal nature of the construction industry, is not the only reason for preparing a forecast. When prepared on a continuous basis as part of an active cash management program, a cash flow projection will also:

- Ensure that the cash balance will always remain above zero or a desired minimum level.
- Determine periods of excess cash for investment or acquisition of capital items.
- Minimize idle funds and therefore maximize investment opportunities.
- Provide efficient use of cash by timing cash disbursements to coincide with cash receipts.
- Matching maturity schedules of short term investments with any debt funding requirements.
- Highlight periods of cash deficiency so that borrowing requirements can be arranged or liquidation of investments can be made.



- Establish the ability to take trade discounts.
- Indicate the need for additional permanent working capital in the company business.

Additionally, properly predicting the timing of the cash fluctuations, particularly cash deficiencies, will put you in a better bargaining position with your banker. The lender will recognize that you have not haphazardly prepared a loan application under a cash crisis situation but have taken the necessary steps to avoid the cash crisis and are prepared for it. Therefore, your chances of a loan being approved are increased. Additionally, cash forecasting demonstrates the use of sound management tools and an awareness of any cash problems well in advance.

It is important to realize that a cash flow forecast is simply a prediction of the future and is subject to error. When your company uses a cash flow forecast, you must take this uncertainty into account. Additionally, you must evaluate the assumptions made about the timing and amount of future cash flows. When completed on a continuous basis, monitored, evaluated and compared to actual cash flows, you will be able to confidently determine, within an expected margin of error, your cash needs and availability.

If your company does not forecast cash flows, you should begin re-evaluating the tools you use to manage your company. If you don't, you are probably foregoing additional income simply by not monitoring your cash flow. Additionally, you may have lost a great opportunity, the opportunity to remain in business when the economy is on the downswing.

If your company is currently forecasting cash flows, make the time now to evaluate the accuracy of the projections. If there are prob-

lems, determine whether they are consistent from month to month. Attempt to find the source of the problem and correct it. Additionally, evaluate the results of your investments and borrowing activity as a result of your cash flow forecast and attempt to determine the effectiveness and efficiency of your cash plan. Actively managing your plan on a continuous basis will result in greater profits and a more stable financial position.

Accelerate Cash Receipts and Decelerate Cash Disbursements

This strategy is an attempt to create and maintain as much available cash as possible by speeding the billing process, slowing the disbursement process and managing bank float.

Following are suggested strategies that, when applied consistently, will help increase your cash flow through these and other techniques:

1. Minimize the amount of cash to be swept into overnight investment accounts and maximize the cash available for higher yielding investments. Overnight investment accounts (or sweep accounts) often become a passive cash management tool. Do not assume that excess cash swept into an investment account is the best use of investable cash.

2. Request additional discounts from all of your vendors, not just the standard discounts offered by some. If you have the cash and can pay within one to five days rather than the standard ten, you may be able to obtain an additional 1% or even 2% discount. Conversely, if you cannot negotiate additional discounts either because you do not have the cash or the vendor will not negotiate, then ne-



gotiate for extended payment terms. Simply moving your payables from 45 to 60 days (especially for major suppliers) can have a dramatic effect on available cash.

3. If necessary, use a line of credit to cover cash short-falls when paying vendors and suppliers so that you don't miss the discount period.

4. If you can manage it, you should minimize the use of your bank credit line. Today, many banks are requiring the payment of a commitment fee ranging anywhere from 1/2% to 1% of the line to maintain your line. If you do not use the line, then do not pay any interest, but if you still need it for bonding purposes, you might want to negotiate a higher rate of interest to eliminate the commitment fee.

5. Establish accounts at three or four different banks and deposit owners' or general contractors' payments into the bank on which they have drawn the check to reduce float days and to allow immediate credit to your account. If this does not increase your float, then look at the cost of maintaining multiple accounts and evaluate closing some to reduce your costs.

6. Negotiate instant credit to your account at the time of deposit regardless of the bank the check is drawn on.

7. Invest idle cash in certificates of deposit or commercial paper and match their maturity dates and amounts to future cash requirements such as debt maturities or anticipated capital investments.

8. Minimize inventory balances to reduce handling, insurance and personal property tax costs.

9. Negotiate skip payment months for long term debt such as financed equipment pur-

chases to match cash inflow and minimize cash outflow when cash flow is tight.

10. Sell under-utilized equipment to minimize repair, maintenance, insurance, personal property and handling costs. Consider renting this type of equipment after an analysis of all your financing and operating costs.

11. Negotiate and include in the contract a provision for incentive payments for early completion of various phases of the contract or the entire contract.

12. Plan to meet payroll tax deposit requirements by monitoring total payroll levels. Manage payroll levels by reducing officers' compensation and careful timing of bonus payments.

13. Manage tax liability and estimated tax payment requirements by deferring taxable income at the end of each quarter.

14. Departmentalize cash budgets and require department managers to manage their budgets.

15. For those working on government contracts, most states now allow contractors to earn interest on the retention funds held by the government. This allows the contractor to invest this money in federal or state securities providing investment income and possibly capital gains. However, in most states this is an active election that the contractor must pursue. Consider also negotiating this with private owners.

The best approach is to develop a formal cash management program that applies all the appropriate cash management principles including budgeting, accelerating cash receipts, decelerating cash disbursement, obtaining credit and investing cash. Consistently applying, monitoring and evaluating these strategies can only help improve your cashflow.



Establish a Plan to Increase Cash Flow on Every Project Before You Start

The success of any construction project can be directly related to the planning that goes into it. The same concept applies to planning cash flows on your major construction projects. The best time to begin cash flow planning is before and during contract negotiations. The payment terms agreed upon can have a significant impact on the cash flow of the project and the company. The following points are recommendations for making the impact a positive one for your company.

1. Determine the Owner's Ability to Pay

Before owners enter into a contract, they often require financial data from a contractor and may require surety bonds guaranteeing payment and performance. The owners protect themselves; is there any reason contractors should not do the same?

As a contractor, you want to know that the owner has the ability to pay under the terms set forth in the contract. Require the owner to submit to you financial statements audited or reviewed by a CPA. Obtain credit reports on the owner and determine the owner's payment history by contacting other contractors and vendors. Your goal is to determine the owner's ability to pay you on a timely basis before you sign the contract, not after. Once you are comfortable with the owner's financial situation, it is up to you to perform under the terms of the contract while monitoring your billings and collections.

2. Negotiate Lower Retainage Balances

If you have worked with the owner in the past and they are satisfied with your perfor-

mance, you may be able to eliminate the retainage provisions or negotiate a lower retainage based on your prior performance. If you are not successful in agreeing on a lower retention, request a reduction in the retainage balance at an earlier stage of completion. For example, request a retainage reduction from 10% to 5% when the job is 40% complete versus 50% complete. A lower retainage will provide you with additional cash earlier to finance additional operations, prevent potential cash shortages, and minimize the need to borrow.

3. Negotiate Assets to be Held in Lieu of Retainages

Occasionally, owners will agree to pay or forego holding retainages if contractors agree to depositing funds into an account that the owner can control. The funds continue to earn interest for the contractors. Although the total cash available is reduced, you have the ability to increase your cash balances over the long run by investing the escrowed funds. If retainages are held, contractors must often cut into their invested balances or draw on their line of credit in order to fund project mobilization or negative cash flow.

4. Agree to a More Frequent Billing Schedule

Billing on a more frequent basis can improve your cash flow and reduce the likelihood of bad debts. If the owner will not agree to a more frequent time schedule, consider an event-based billing schedule.

With an event-based billing schedule, you are able to control the billings by completing the agreed-upon phases before you bill. Then, you can concentrate on completing



the agreed-upon events before incurring time on other phases of the project.

5. Negotiate Incentive Payments

Incentive payments can be negotiated for early completion or completion within owner-defined timeframes. The incentive payments can be for various phases of the project or for the overall project. To eliminate the risk of not receiving anything, incentive payments are more favorable to you if paid throughout the contract based on phases completed. If you agree to incentive payments based on total completion of the project, the opportunity to earn the incentive payment could be lost in the final project phase. The goal is to collect the cash you have earned as early as possible.

6. Submit Unbalanced Bids

Another technique used to generate positive cash flow in the early part of the construction project is to submit unbalanced bids. This front-end loading procedure accelerates the cash collections to be generated from the project because a larger portion of the total contract price is allocated to phases of the work that will be completed in the early stages of the contract. Even though in most cases the contractor must have the lowest qualifying bid to win the job, the owner may allow the contractor the flexibility of assigning higher cost to the early phases of the contract. This gives the contractor the ability to fund start-up costs such as stored materials, shop drawings, bond premiums and mobilization.

7. Discuss the Billing and Payment Procedure During the Final Contract Settlement

Although the procedures are outlined in the contract, address the billing and payment

procedures in the final contract discussions. Make sure that the owner understands that you expect them to abide by the contract. Let them know that you will be more efficient and productive if you can pay yourself, the subcontractors and suppliers in a timely manner. The result will be timely completion of the project, cash flows based on projections and a happy contractor and owner.

After Contract Negotiations

Once the contract has been signed and the project has started, the contractor must take an active role in enforcing the contract terms.

The following suggestions are steps you can take to improve cash flow and to protect your company against loss.

1. Agree on What to Bill Prior to Preparing the Requisition

Today, most contractors have their billings pre-approved by the owner and the architect before they are presented in the form of a monthly bill. This procedure will help to avoid having the requisitions you submit to the architect or owner sent back for changes or with a payment that is less than the requisition amount. Every contractor should adopt this procedure. This process will allow you the opportunity to talk about any requisition disputes before you submit a bill. In addition, discussing and agreeing on the percentage of completion and the amount that can be billed before the requisition is prepared can eliminate disputes. As always, attempt to address potential problems before they become real. When significant billings are involved, walk the job site with the architect or owner



and come to an agreement prior to preparing the requisition. You can avoid disputes and, in most cases, will receive the cash quicker.

2. Challenge the Architect's Changes

Architects will sometimes reduce requisitions out of habit rather than due to improper or incomplete work. Be conservative with the first requisition. If the architect adjusts your first requisition, you will know that he has developed a bad habit. If they do not make an adjustment, you may have earned their trust in your billing process. This will certainly make future requisitions easier to collect.

Also consider involving the owner in any disputes. Don't simply let the architect make the decisions. The owner usually is involved in the construction and knows what is complete and what is not, so it is appropriate for him to have an understanding of the billing process. In some cases, you may find the owner is more lenient than the architect and may encourage the architect to allow the billing.

3. Eliminate Grace Periods

Demand payment on time. If payment is due by the 25th of the month, stick to the 25th. Set the trend with the first billing. If the owner is made aware of this early in the process, he will understand that this is important to you and will develop a sense of urgency in processing the payments or in resolving disputes that may arise.

4. Consider Charging Late Fees

Include the terms of your finance fees in the contract and on the bill. Explain your reasons for the fee during your discussion at the contract settlement. A typical fee is 1.5% per month. Some contractors do not feel right

charging a finance fee, but once you realize that the money owed to you could be in the bank earning interest, your opinion changes quickly.

5. Include the Contract Payment Provisions Clause with Second Notices for Late Payments

If necessary, follow up with a second notice and include the payment provision clause from the contract to remind the owner of their contractual obligation. This will suggest to the owner your seriousness regarding timely payment. In addition, a follow-up telephone conversation can be effective. When done in a businesslike manner, you can still maintain a good relationship with the owner.

6. Define Contract Completion to Determine the Timing of Retainage Releases

Retentions are a cost to your company. You can lose significant amounts of interest income or incur substantial interest expense for loans you had to obtain because someone else has your money. Contractually agree on the specific terms to be met before retainages will be released. Project completion should be defined in the contract. If billings are based on the completion of phases, the phases should also be defined. Additionally, consider defining the punchlist process in the contract. Once the project is completed as defined, take an active role in enforcing the contract terms.

The points above stress collecting the money that you have earned as soon as possible. The quicker you collect, the more you will be able to invest, whether your investment is the next project just beginning or a certificate of deposit. Keep in mind that you are not a bank. You do not want the owner to be holding your money when it belongs to you.



The objective is to finance your operations, not the owner's operations.

Each of the above functions can be performed exclusive of each other, however, a properly managed plan will consist of a balance of all functions.

Direct Benefits of Cash Management

The primary goal of cash management is to increase profitability. However, cash management can do more for your construction company than just improve your bottom line. A properly managed program can do the following for your construction company:

- Eliminate, or at least minimize, borrowing needs
- Indicate when cash needs will arise to pay income taxes, loans, vendors, payroll, and any other obligations
- Reduce the amount of cash unnecessarily tied up in accounts receivable
- Improve the timely investment of excess cash in safe and profitable investments
- Minimize the number of transactions to reduce processing and administrative costs by timing cash disbursements to coincide with cash receipts

Indirect Benefits of Cash Management

Indirectly, cash management can improve relationships with your banks, surety vendors, subcontractors, general contractors and owners. Your construction company will become less of a credit risk to suppliers, banks, your bonding company and other creditors. In addition, the use of such tools as cash flow forecasts can increase your cred-

itability with both your bank and bonding company which ultimately can benefit you through increased lines of credit from both. They will recognize that you are taking the necessary steps to monitor a critical asset of the company. Additionally, by becoming actively involved with the timing of your billings, collections and disbursements, your company will become more profitable.

Cash Management Organization

The cash manager in most construction companies has more than one responsibility. In medium and small construction companies, it may be the owner, president, treasurer, controller or accounting manager, each having other primary responsibilities with cash management assigned as a secondary responsibility. The ideal situation is to assign the cash management responsibilities to an individual who is not involved with the day-to-day accounting of cash transactions. For the small contractor, this may not be possible. But for most larger construction companies, the organizational structure and staffing resources are available to properly segregate these responsibilities.

What is important in both large and small construction companies is to assign cash management responsibilities to an individual that is part of your management team. Cash management should become part of that individual's job description which would describe their responsibilities including the individual's authority over cash transactions. The responsibility should be defined and the method of measuring the results of the cash management program should be determined.



CONCLUSION

A cash management plan of most construction companies should include the following:

- Project cash flow budgets on a monthly basis combined to produce a company based cash flow budget.
- Cash receipts and disbursements projections on a weekly or, at a minimum, monthly basis for both project related re-

ceipts and disbursements and fixed disbursements.

- Daily cash reports for operating and invested funds.

The above-mentioned items are necessary when approaching banks in order to evaluate lending alternatives.

Cash management is much more than just investing idle funds. It is a critical component of every contractor's operation and should be treated as such if you wish to be successful in the long term.

TABLE 1
CASH FLOW FORECAST

	MONTH		YEAR-TO-DATE	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
Receipts				
Cash balance beginning of period				
Contract accounts receivable receipts				
Retention receipts				
Interest				
Loans				
Other cash receipts				
Total Cash Available				
Disbursements				
Subcontractors				
Trade suppliers				
Payroll including burden				
Indirect job costs				
General & administrative expenses				
Capital additions				
Income taxes				
Debt service				
Other				
Total Disbursements				
Cash balance end of period				
Management's minimum cash reserve				
Cash Available				
Balance Line of Credit				
Total Cash & Credit Available				