PDHonline Course P103C (12 PDH)

Basic Project Management

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Presents

Basic Project Management

Via

WEB BASED LEARNING

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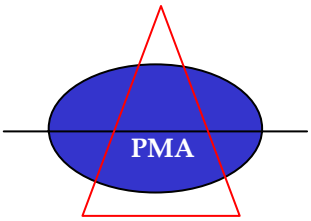


MODULE # 5:

Successful Techniques for Project Planning (Proposal and Contract Implementation) and to Practice the Project Process.

PROPOSAL MANAGEMENT

PROPOSAL PRESENTATION

Proposal preparation represents a key phase in any project management process. A proposal is a special type of plan and should follow carefully thought-out guidelines and business practices. Concepts for consideration include:

1. A good proposal simply answers the questions, Why me? Why not them? Will you be able to say that in one simple sentence.
2. Make optimal use of bidding expense – be **selective** in choosing projects to bid.
3. Avoid half-hearted proposal efforts. A proposal should be "full bore or nothing". Half-hearted efforts waste organizational resources and reflect poorly on company image and profitability.
4. Single focal point accountability must be established and project management principles and concepts must be followed to minimize the difficulties during the transfer to the contract implementation phase if you win.
5. Define a specific process and follow it.
6. Review customers' requirements carefully at the start, separating routine from unique and identify risks and cost drivers.
7. Your strengths and weaknesses and your competitors strength and weaknesses must determine how you complete.

WE ARE ARROGANT WHEN WE:

1. Think we can start late and still win.
2. Place our perceptions above the customers'.
3. Don't care enough to check it out with the customer.
4. Present many and changing faces to the customer.
5. Don't name the Project Manager (leader) until the last moment.
1. Expect to win with a Ho-Hum approach.
7. Don't take time to carefully review the proposal.
8. Don't give top down direction.
9. Don't commit, yet expect to win.
10 Never consider the competition or the customer in developing our approach.
11. Take on too many proposals at once.

BID/NO BID COMPETITIVE ASSESSMENT –

The key questions are:

1. Who is the customer?
   a. Do we have any prior relationships?
   b. What are his/her hopes?
   c. What are his/her biases?
   d. What are their fears?
   e. Where will this be done?
2. What does the customer want to purchase vs. what do we want to sell?
3. When will the opportunity materialize and how long will it take to complete?
4. How does the customer want to contract for the work?
   a. Type of contract?
   b. Terms and conditions?
   c. Unique factors?
   d. Payment schedule?
5. Why do we want to pursue this opportunity?
   a. Applicability to our technology and product line.
   b. Amount of dollars in contract.
   c. Potential follow-up business.
6. Who are the competitors?
   a. What are their strengths.
   b. What are their weaknesses.
   c. How tough are they?
   d. What is their standing with the customer?
7. What do we have to sacrifice to win?
   a. What is the cost to turn in a winning proposal.
   b. Do we have people available to properly staff the proposal team?
   c. Are we willing to walk away from our preferred approach to a winning approach?
   d. Do we have the resources available or can we secure resources to implement if we win?
8. How firm is the opportunity?
   a. Is the requirement approved?
   b. Is it funded?
   c. How many competing concepts are there?
9. How well are we prepared to pursue the opportunity?
   a. Do we have knowledgeable people and a leader.
   b. Can we submit an innovative approach.
   c. What is our standing with customer.
10. What are the risks?
    a. Is the project justification driven by politics, not profit or legal compliance?
    b. Is the customer weak in knowledge and skills?
    c. Are the customer's resources assigned to this project sufficient?
    d. Is the customer's contracting function a complex bureaucracy?
    e. Are we bidding to unfamiliar or untried performance specifications?

f. Is this a project that has substantial subcontractor or supplier input where our own value added is low? – i.e., project brokering?
g. Is this a bid that will mean poor margin for whoever is successful, regardless of the outcome?
h. Has this technology only been tried outside of North America?
i. Is this serial number one?

If the answer to any of the above questions is yes, then this may be a high-risk project. That classification does **not** mean that the decision should be no bid, it just means you should be well aware of the risks prior to the decision to bid.

CHARACTERISTICS OF WINNING AND LOSING BIDS:

WHY WE WIN

1. Management insists we start with a proposal strategy to win.
1. We keep our technical minds open and respond to our customer's perceptions.
2. We write a competitive win-oriented proposal.
3. We develop the data base to fit the RFP
4. We pick the best leader, no matter how much it hurts.
5. We keep one leader from start to finish
6. We write the summary first, last and often.
7. We scenario before writing.
8. Our CEO's letter tells you why.
9. Our leader demands discipline.
10. Everyone works to schedule.
11. We develop early drafts to find holes.
12. We use dispassionate review teams.
13. We provide 100% drafts to review teams.

WHY WE LOSE

1. We are above such sleazy things.
2. We place our pride of conception above customer's perceptions.
3. We write a **technical report** instead of a proposal.
4. We develop the data base to suit our interest.
5. We pick whoever is available.
6. We change key people often.
7. Mr. Available writes the summary last.
8. We write without a plan.
9. Everyone does his or her thing.
10. There is no detailed schedule.
11. First draft is the last draft.
12. There is no disciplined review teams.
13. There is an incomplete pile of …Sh….
14. We respond as we wish. Do what's easy. Deficiencies go to customer.
15. There is no time set aside for fixing deficiencies.

PROBLEM PROJECTS

1. 85% of all projects fail in some aspect:
   a. Design.
   b. Execution.
   c. Operation.
2. Horror stories:

a. Cost millions more than planned.
b. Weren't operational until years after they were needed.
c. Didn't satisfy the original needs.

3. How many unqualified successes:
   a. Went smoothly from start to finish?
   b. Came in on time?
   c. Came in on budget?
   d. Worked as expected?

PROJECTS IN TROUBLE – No. 1 reason

1. The project's most important problems are not managed effectively with the sense of urgency they require.
2. Projects do **not** fail at the end, but rather are set up for failure at the beginning.
   a. There is a lack of attention and/or planning focus.
   b. There is a lack of urgency in taking action.

PROJECT PLANNING – Purpose

1. Obtain buy-in and ownership through early participation.
2. Sharing of expectations and negotiating differences.
3. Assignment and acceptance of individual responsibilities.
4. Identification and allocation of resources to highest priority activities.
5. Coordination of activities between functional groups.
6. Improved communication (both vertical and horizontal).
7. Improvement of on-target project performance.

STEPS IN PLANNING

1. **Establish Project Objectives**
   a. Originates with a clear “statement of the customer’s requirements”.
   b. Clarification and agreement as to what has to be accomplished.
   c. The delineation of the “deliverables” is a critical first step.

2. **Establishment of a work breakdown structure (WBS)**
   a. A WBS top-down sub-dividing of the total project into major work assignments (nouns) with the last tier consisting of work tasks (verbs).
   b. The WBS is the basis for establishing organizational accountability and resource (time and costs) estimates.

3. **Establishment of an organizational/task accountability matrix**
   For each identified work element there must be identified a single point of accountability.

4. **Resource estimating**

a. Resource estimates (time and costs) must be made for all level of the WBS.
b. Estimates should be made by those who are accountable for the work.

5. **Development of the critical path schedule**
   a. Shows dependent sequencing of all tasks and deliverables.
   b. Includes all significant interdependencies and interactions of each activity required to perform the project.
   c. The critical path schedule allows the determination of the total time.
   d. The critical path network must be translated into a detailed schedule showing specific calendar dates.
   e. The schedule will govern the start and completion of work.

6. **Establishment of project budgets**
   a. Cost estimates must be developed.
   b. Time phased budgets are established.

7. **Development of the project implementation plan (or proposal)**
   a. The team members generate their plans.
   b. The resulting team member plans are integrated into an interim W_5H_2 plan for agreement and approval by top management and/or the customer.

8. **Publish the project implementation plan (or proposal)**
   a. When approved, publish and distribute the final W_5H_2 plan to all stakeholders.
   b. Team members do best when they know not only what is expected of them, but also what their relationship to others is.

ESTABLISHING PROJECT OBJECTIVES

Before work on the project begins, the following steps should be accomplished:

1. The prime objectives must be carefully determined and defined, the supporting objectives leading to the attainment of each prime objective must also be determined and defined.
2. The objectives must be organized and interrelated to enable attainment of the overall program objectives.
3. These objectives must be communicated effectively to operating management in the next lower levels of the organization.

Why set project objectives?

1. If you don't have objectives, you have no idea whether you are on the right track or not.
2. To measure results against prior expectations.
3. To know when the project is off target, and how far, one must first know the target and the best route to take to arrive at the target.

The criteria for an acceptable project objective is that the project objective must be:

1. Specific.
2. Not overly complex.
3. Measurable, tangible and verifiable.
4. At the appropriate level (challenging).
5. Realistic and attainable.
6. Consistent with resources available or anticipated.
7. Consistent with organizational plans, policies and procedures.

THE WORK BREAKDOWN STRUCTURE (WBS)

1. Identifies major work assignments.
2. Allows the project to be managed and performance to be assessed in "small pieces".
3. Is a checklist of every activity that must be performed to create the end product.
4. Becomes the foundation for assignment of responsibilities.
5. Is used to determine resource requirements.

SAMPLE CATEGORIES OF MAJOR WORK ASSIGNMENTS

1. Components of the project.
2. Functional activities.
3. Phases (best used when there are go/no go decisions).
4. Organizational units (best used when multiple organization units are involved).
5. Geographical areas (best used when the work to be done is in multiple location).

THE WORK BREAKDOWN EXERCISE

OBJECTIVE:

1. Gain a basic understanding of how to break down work.
2. Apply lessons learned so far.

WHAT TO DO:

Remember your PM training.

DELIVERABLE:

A work breakdown that identifies the various task (remember to break it down to the verb level) it takes to build a house using the component method.

TIME: 40 minutes

WRITE DOWN YOUR HOUSE WBS BASED ON COMPONENTS ANSWERS NOW!

A SOLUTION TO THE WBS EXERCISE

A WBS for building a house – components

1. Select Site
2. Purchase Site
3. Design House
4. Site Preparation:
   - Survey lot
   - Grade lot
   - Layout house foundations
5. Foundation:
   - Dig trenches
   - Purchase rebar
   - Install rebar
   - Purchase concrete
   - Pour concrete
   - Finish concrete
6. Block work:
   - Purchase blocks
   - Lay blocks
   - Install termite shield
7. Main Floor
   - Purchase materials
   - Install perimeter
   - Install floor joist
   - Install sub floor
8. Frame
   - Purchase materials
   - Frame bottom plate
   - Install studs
   - Frame top plate

And so on. Not so hard is it?

HOW DID THE ABOVE LIST COMPARE TO YOUR LIST?

RESOURCE ESTIMATING

While most projects can claim to have a written, formal set of objectives, a work breakdown structure (the shell of a plan) and an accountability matrix, most project plans falter before detailed information on every task and resources can be gathered or estimated.
One reason for this may be the lack of a historical precedent (we always plan just enough to "sell" the project). Or, it could be that the very real difficulty we encounter when trying to gather

the information. Don't be guilty of believing that you can plan – alone – that which must be accomplished by the many.
The planning process is valid only when the task of planning is shared appropriately throughout the team. **Work must be planned by those who will accomplish it.** Communication and cooperation are most important during this critical planning phase.
When you find yourself responsible for a sub-project task, remember, you are a Project Manager for that piece. It is your team – not yourself – which will either fail or succeed in meeting overall targets of performance, schedule and budget. It will be hard to explain that you set or accepted unrealistic targets without first sharing the objectives with the team and integrating their knowledge about the tasks.
For this reason, a Project Manager should always foster planning skills among the team, out to the level of the individual doer. Planning is primarily a technical task, requiring technical knowledge and skills which you may have "given up" in your role as a manager.
A plan containing estimates which are not compiled at the absolute limits of detail is less likely to conform closely to actual performance. If such a plan is mistaken for the "real thing" there may be little motivation to repeat the planning process for the next project.
When you are estimating resources, ask yourself seriously: "Am I the right person to list the tasks and resource requirements for the work element in question?" If you determine that you are instead responsible for integrating the efforts of others, then "circle your wagons," and distribute the planning requirements to the members of your team. Perhaps they will estimate the work, perhaps they too will distribute the planning work out to the next level. In any event, estimating should not begin until tasks have been identified down to the greatest level of detail possible. The person who will actually do the task should perform this work.
After you have determined that the right person is planning the work, identifying individual tasks and resources should not prove too difficult. In fact, difficulty is a symptom that you are trying to plan for others.

ESTIMATING TECHNIQUES -

The following principals will help in generating sound estimates:

1. **Make the people who must do the work responsible for estimating the cost of that work and for subsequently performing within their estimates.** While these people should have prime responsibility for preparing estimates, a small permanent support cadre can be catalytic in assisting them. Such a cadre can effectively coordinate and integrate the estimates of individual contributors and can help consistency of pricing. It can also assist the proposal manager in providing proper style, format, uniformity, and continuity to the composite estimate.

2. **Create a logical work breakdown structure, which accurately identifies tasks, schedules and costs.** Tasks should be clearly divided to avoid redundant estimating. Cost and scheduling targets ("bogeys") for specific tasks can be useful if the proposal manager is sufficiently knowledgeable to allocate the targets realistically.

3. **Make estimating an iterative process.** The cost of a task cannot be estimated with accuracy until the task is clearly defined. On the other hand, explicit task definition often requires some preliminary indication of cost. Therefore, tasks should be defined as well as possible initially and costs roughly estimated. Subsequently, an iterative estimating process can lead to tasks that are both well defined and accurately costed.

4. **Use data banks whenever feasible.** Historical data should be used to (1) profit from past successes and failures and (2) derive estimating indexes wherever advantageous. However, when using past data, great care should be taken to ensure that such data is valid. Therefore, it is recommended that all such data is frequently reappraised. Individual data banks within each participating activity are generally considered more accurate and useful than a single central bank.

5. **Identify upper and lower limits on estimates.** Such limits indicate the range of uncertainty involved, and afford management a basis for intelligent risk-taking.

Other considerations for effective cost estimating are:

1. Compare tasks with similar work on previous programs, judiciously taking into account differences in magnitude and complexity.
2. Estimate as closely as possible the number of drawings and related documents that will be required – this number can often serve as a useful base or index for estimates of other functions such as fabrication, construction, etc.
3. Consider, in as much detail as possible, the additional resources (personnel, facilities, equipment, etc.) needed if the competition is won.
4. Obtain competitive proposals/estimates from potential major subcontractors and suppliers, ensuring that such vendors have a record of both technical and business competence. Review these proposals carefully to determine that the technical approaches and estimated costs are valid.
5. Take into account inflationary trends when making estimates, especially for programs that stretch far into the future.

MANAGEMENT INVOLMENT IN ESTIMATING:

Invariably, management finds itself deeply involved in cost estimating. Such involvement is both necessary and can be constructive; however, we must be cautious:

1. Excessive management pressure to win contracts may lead to overly optimistic estimates/commitments on the part of those doing the actual estimating.
2. If management, with its broader visibility, finds it necessary to adjust original estimates, such adjustments should be based on mutual understanding with the original estimators. Otherwise, the latter may become demotivated and lose their commitment. Also, future estimates may be deliberately inflated in anticipation of management reduction.

Cost estimates made on a “no-expected-problems” basis should receive especially close management review; problems nearly always arise and their cost impact should be anticipated.

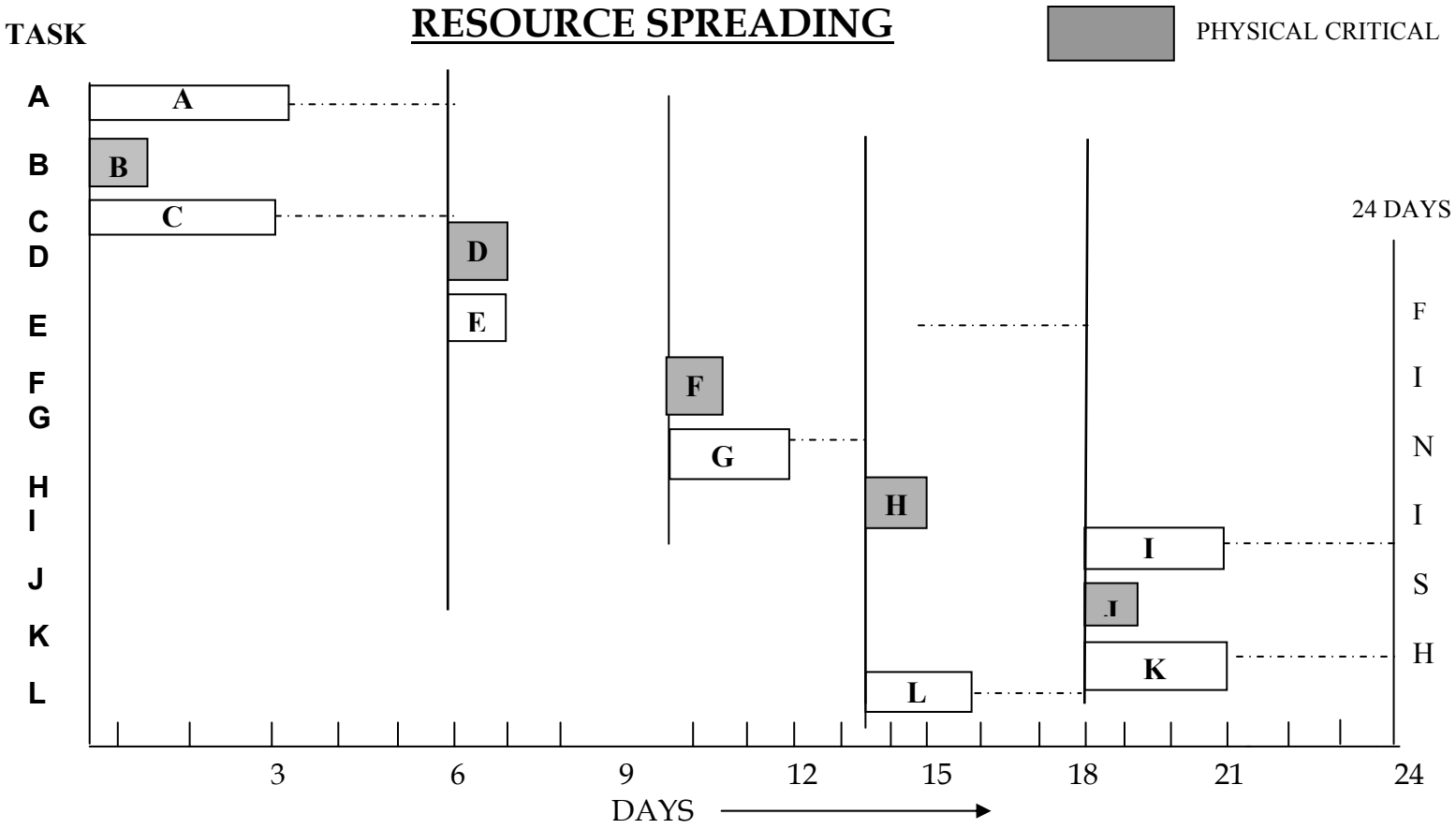
ESTIMATING CONTINGENCY

1. A contingency allowance is a provision for work that is **likely** to occur, but can not be identified in advance. It is not arbitrary, nor is it a “pad” or “cushion”.
2. It can be **positive** or **negative**.

RESOURCE SPREADING

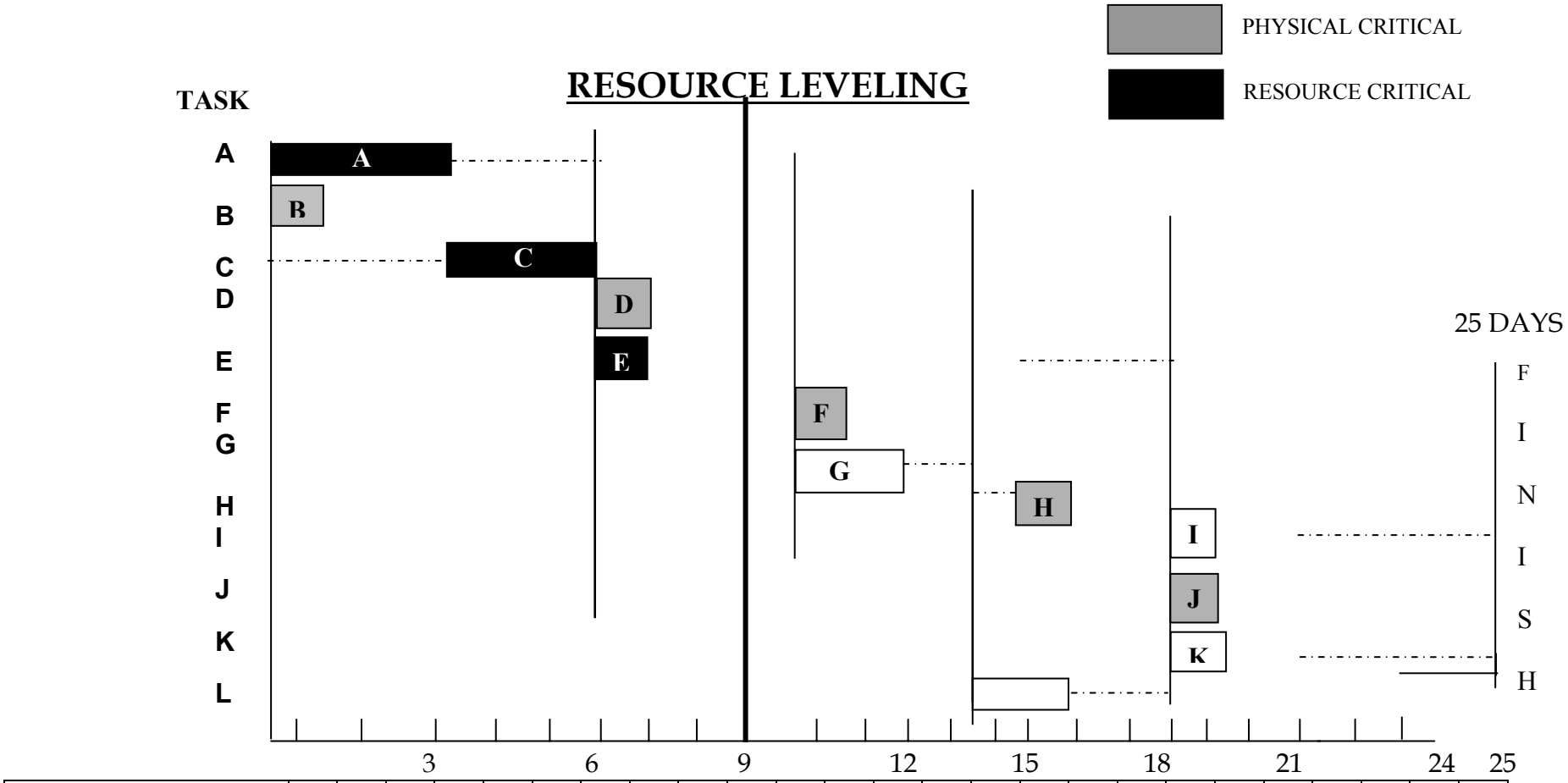
Please refer to the resource spreading chart on page 67. This chart represents one way to man the project to accomplish all of the work task (A through L) on schedule. Unfortunately the way the work is layed out and assigned it requires “Ricardo” to work three 16 hour shifts and Edward to work one 16 hour shift. In addition, the daily manpower varies wildly. There are eight days of one person, seven days of two people and nine days of three people. When you apply Resource leveling techniques, you produce the chart titled Resource leveling on page 68. Now you have reduced “Ricardo” and “Edward” to only 8 hour days. Your manpower does not vary wildly. You have six days of only one person, 14 days of two people, and five days of three people. Both charts spent 392 hours to accomplish all of the task in 25 days. However, the plan shown on the chart titled “Resource Leveling” on page 68 has better manpower obligation and application and will be easier to manage.

RESOURCE SPREADING



FRED																		8	8	8				
RICARDO	16	16	16																					
LUCY							8	8	8	8	8	8												
VIVIAN	8	8	8	8	8	8																		
EDWARD							8	8	8	8	8	8	8	8	16	8	8	8	8	8	8			
ANNA																			8	8	8	8	8	8
GEORGE											8	8	8	8	8	8								
TOTALS	24	24	24	8	8	8	16	16	16	16	24	24	16	16	24	16	8	8	24	24	24	8	8	8

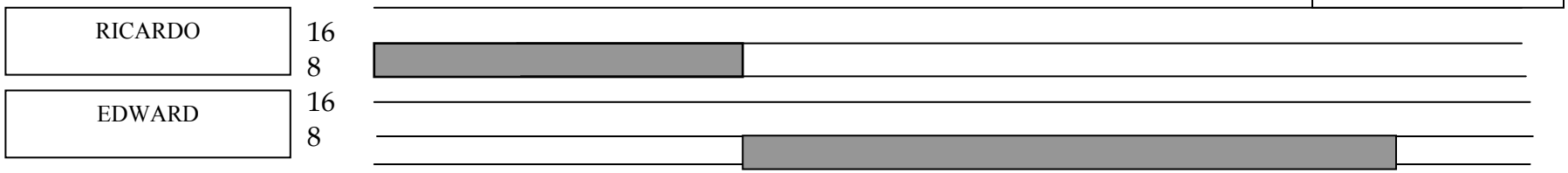
TOTAL OF 392 HRS.



FRED																			8	8	8				
RICARDO	8	8	8	8	8	8																			
LUCY							8	8	8	8	8	8													
VIVIAN	8	8	8	8	8	8																			
EDWARD							8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8			
ANNA																				8	8	8	8	8	8
GEORGE											8	8	8	8	8	8									
TOTALS	16	16	16	16	16	16	16	16	16	16	24	24	16	16	16	16	8	8	8	24	24	24	8	8	8

DAYS →

TOTAL OF 392 HRS.



SCOPE CREEP

1. What Is Scope Creep?
2. How Does It Happen?
3. Where Does It Come From?
4. How Do You Control It?

WHAT IS SCOPE CREEP

Scope creep is simply an increase in the scope of the project (beyond the original estimate). In other words, an increase in the requirements (deliverables).

TWO SOURCES OF SCOPE CREEP

1. **Externally Induced:**
   - The customers are too involved in design and/or review (a continuous improvement process).
   - There was no real understanding of the customer's requirement during bidding.

2. **Internally Induced:**
   - Continuous engineering improvements to make it better.
   - Things that were left out of the estimate in pre-contract.

CONTROL OF SCOPE CREEP

1. An absolute understanding of what the customer needs, not necessarily what he specified
2. A clear contract – **No fuzz.**
3. Clear understanding of customer's role in design and/or review.
4. Real time notification of scope change program – dollars and schedule impact.
5. Preach to the project team that the project charter requires meeting the customer's contract and/or his expectation – Not necessarily providing the "best"!

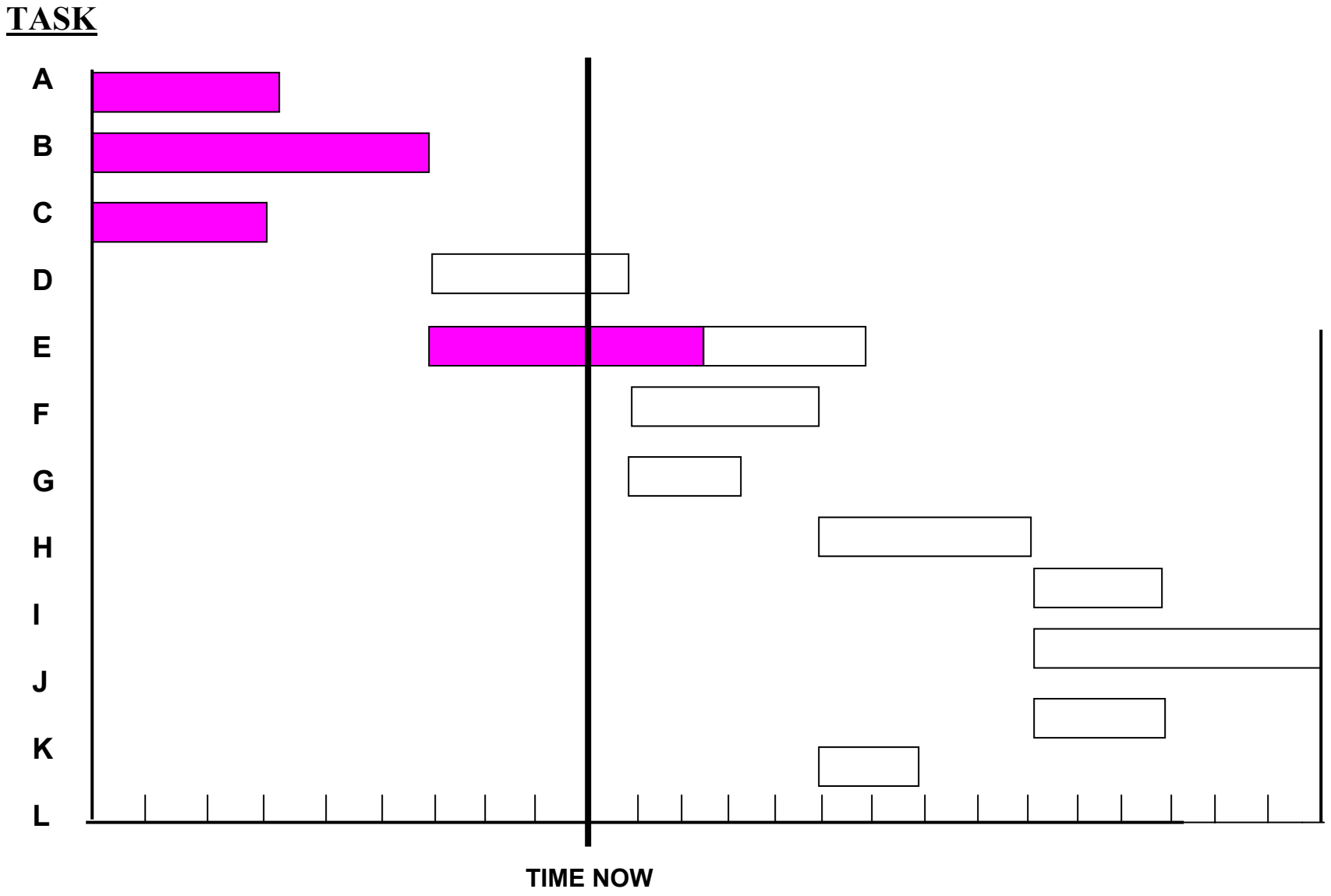
SCHEDULING

Look at the schedule on page 70. The dark vertical line represents today. The shaded bar(s) shows work completed. Is this project on schedule? Is it behind schedule? Can you tell from the chart?

The answer is that you can not tell. You do not know where the critical path is yet, do you?

SCHEDULING

SCHEDULE CHART 1



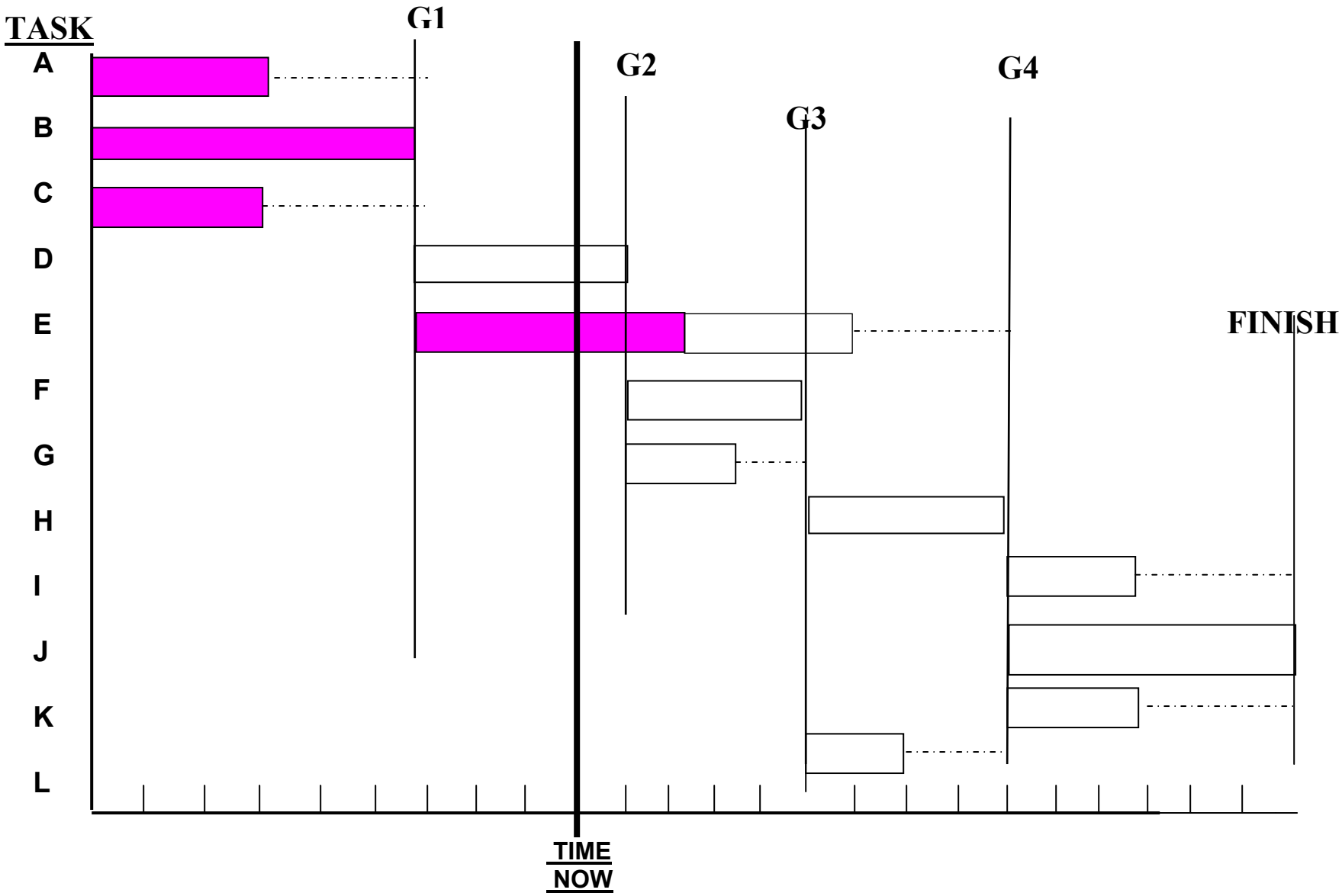
Now what if I gave you the following additional information?

PRECEDENCE TABLE

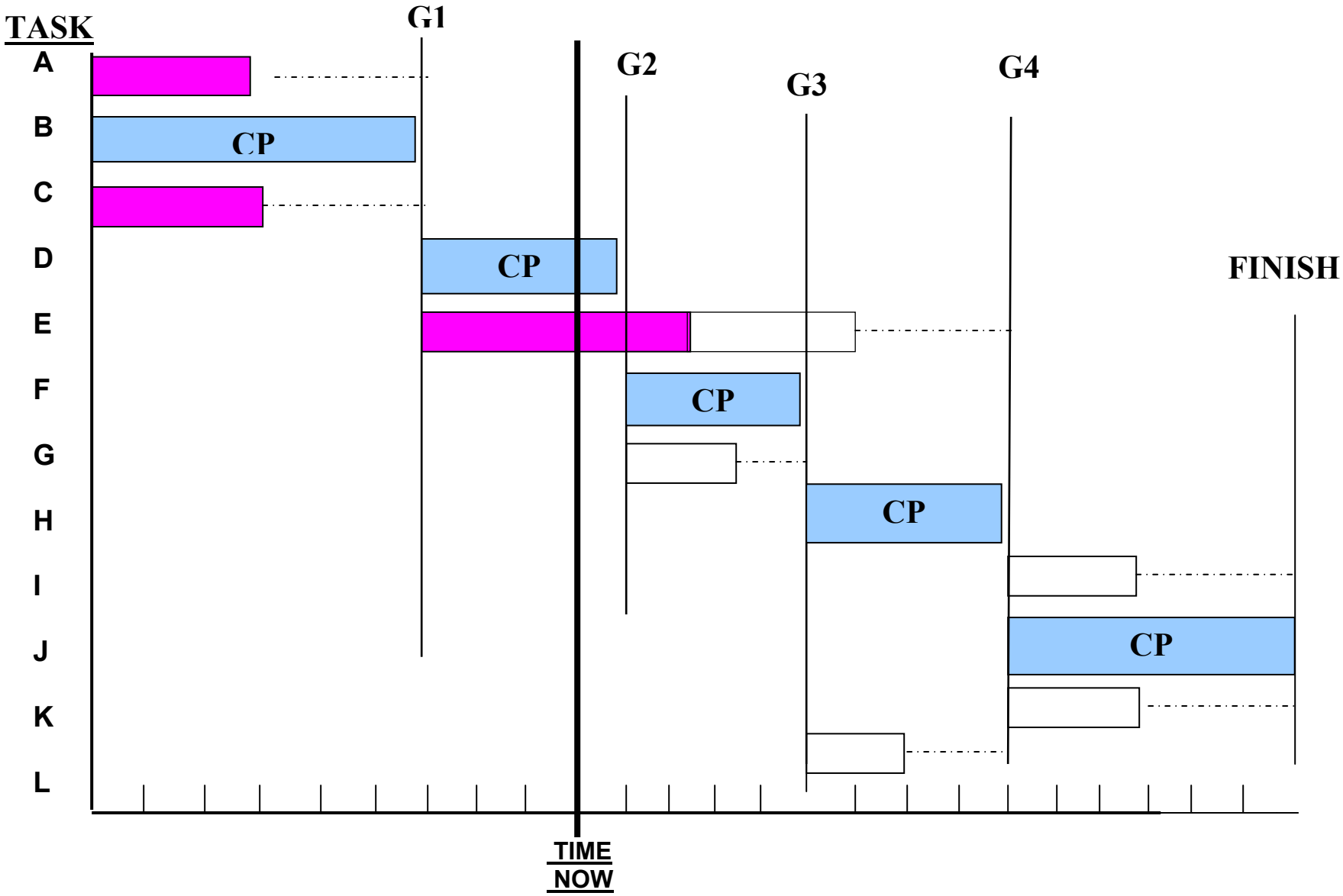
TASK NAME	DURATION	PREDECESSORS	GATE
A	3	--	--
B	6	--	--
C	3	--	--
D	4	A,B,C	G1
E	9	A,B,C	G1
F	4	D	G2
G	2	D	G2
H	4	F,G	G3
I	3	H,E,L	G4
J	6	H,E,L	G4
K	3	H,E,L	G4
L	2	F,G	G3

Now you can identify the critical path through the use of the gates. Installing the gates G1 through G4 identifies the critical path. See the chart on page 73. Once the gates are installed, the critical path becomes evident. See the chart on page 74.

SCHEDULE CHART 2 –GATES ADDED



SCHEDULE CHART 3 –CRITICAL PATH IDENTIFIED



Now you can tell from the above that the project is in fact behind schedule. Why? Because the critical path is behind schedule. As other tasks fall behind schedule, you may discover you have more than one critical path or that a different critical path(s) develops. Be aware, as the number of critical paths increase, the likely hood of you finishing on time goes down.

Scheduling is really not any harder than this. Let's see if I am right…

THE SCHEDULING EXERCISE

OBJECTIVE:

1. Gain a basic understanding of scheduling.
2. Apply lessons learned today.

WHAT TO DO:

Remember your PM training.

DELIVERABLE:

A schedule that identifies the critical path(s) and how many work days to finish the project based on the following scheduling exercise case study.

TIME: 90 minutes

THE SCHEDULING EXERCISE CASE STUDY

A major company in the field of industrial machinery fabrication is planning to launch a massive campaign to push the sale of a recently developed item of industrial hardware. You are asked to prepare the network diagram from which schedules for the preparation of the campaign can be developed. You have available the information listed in the following paragraphs. In general, the project may be broken into three major categories:

A) The training of sales personnel.
B) Consultation with and training of the marketing personnel.
C) Preparation of the necessary advertising and instruction material for the campaign.

SALES

In order to save time on the sales side, it has been decided to prepare phase #1 of the training program for the salesmen. This will take 8 days. At the same time, the sales managers are selecting the sales personnel who are to be trained. This will take 2 days. Both of these activities will therefore begin at the start of the project.

Following their selection, the chosen sales personnel must be relieved of their other responsibilities in their areas and sent to the company's training center in the home office. This will take 4 days.

Obviously, it would be foolish for the salesmen to arrive before phase #1 of the training program is ready for them. When phase #1 of the program is prepared, the salesmen will be trained in this part of the program. This will take 10 days.

While the salesmen are being trained in phase #1 of the program, phase #2 will be prepared in 9 days. As soon as the salesmen's training in the first phase is completed and phase #2 of the program has been completed and approved, the sales training in the second phase can commence. The approval cannot be given until the General Marketing Approach (see "Marketing" section) has been determined. The second part of the program will take 12 days.

At the conclusion of the two major phases of their training, the sales personnel will be issued "Customer's Instruction Manuals" on their new machines and will spend a short time at the office becoming familiar with them. This will take 5 days.

When the salesmen are familiar with the manuals, they will return to their respective territories ready to begin their effort simultaneously with the national advertising campaign. Getting back to their territories will take 1 day.

MARKETING

1. Personnel

The first step in the project for the marketing side will be the determination of the general marketing approach. This will take 10 days.

When this has been arranged, the necessary marketing personnel will be selected. This will take 4 days. Then the marketing personnel will be brought into the home office. This will take 2 days.

Following the determination of the general marketing approach and while the marketing trainees are being selected and brought in, specific training plans for the marketing personnel will be consolidated. This will take 2 days. After these plans are consolidated, a familiarization course for these personnel will be designed. This will take 8 days. When personnel and the course are ready, the training of marketing personnel can proceed. The training will take 8 days.

2. Advertising

Immediately after the general marketing approach has been determined, advertising plans must be consolidated, which will take 6 days. When this consolidation is complete, a paper will be prepared in 6 days and printed in a professional journal. The printing will take 8 days. Also, immediately following the consolidation of the advertising plans, national advertising must be prepared which will take 10 days, approval will take 4 days and distribution to the proper media will take 2 days.

Not until the marketing people are trained, the professional paper published and the advertising distributed will the national advertising be released and carried by the media involved. The release and preparation to carry the national advertising will take 2 days. It is not planned to proceed further with the national advertising campaign until the salesmen have returned to their territories.

3. Printing

As soon as the advertising plans are consolidated, (the first step under "Advertising" above) a general brochure will be drafted and approved in 4 days. Following the approval of this brochure, a layout must be designed in 5 days and the brochure printed in 3 days. As soon as the brochure is approved, a "Customer Instruction Manual" will be prepared in 3 days.

The instruction manual must then be approved in 1 day and printed in 2 days. Copies of the “Customer Instruction Manual” alone will be sent to the training center which will take 1 day. The “Customer Instruction Manual” will be utilized in completing the training of the salesmen.

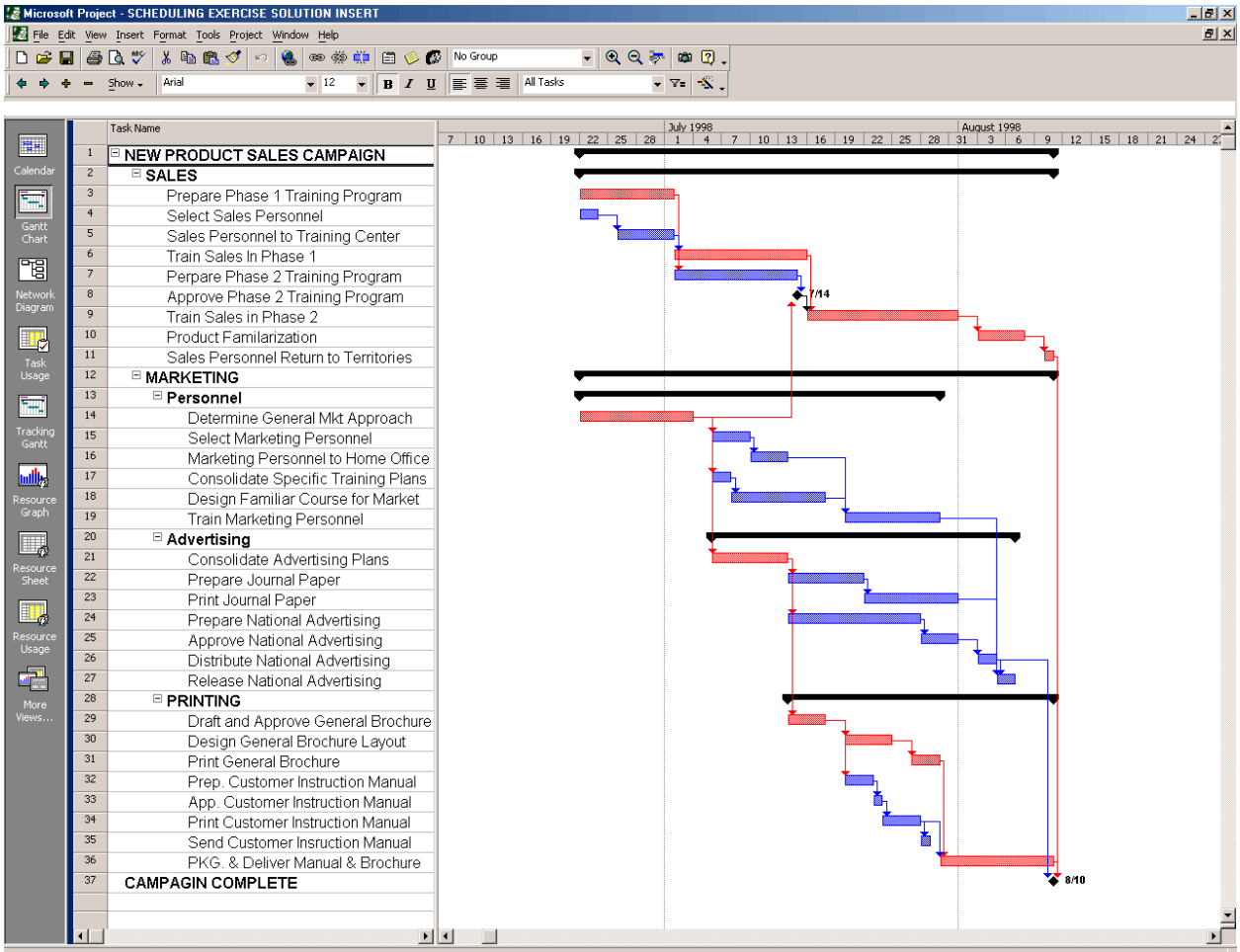
As soon as both the brochure and the “Customer Instruction Manual” are printed, they will be packaged together and delivered to marketing for general distribution. The packaging and delivery together should take about 8 days.

Actual implementation of the campaign (which may be regarded as the termination of this project) cannot begin until the salesmen are in their territories, the national advertising campaign released and the proper brochures and manuals have been received by marketing.

YOUR JOB

Prepare a schedule for this project and select the critical path or paths. You will probably show from 30 to 35 activities and from 20 to 25 events.

PREPARE YOUR SCHEDULE NOW



[For Larger Image of Schedule Solution (MS Project file), Click Here]

How did you do?

PROCUREMENT: AN OVERVIEW

THE WORK

1. Qualification of bidders.
2. Bid packages
3. Solicitation of bids.
4. The bidding process.
5. Making the deal.
6. Follow up.

QUALIFICATION OF BIDDERS

1. Assure supplier capability is backed up with adequate resources, financial stability, proven performance, etc.
2. Conduct an analysis of high risk technical, cost, and schedule areas.
3. Establishing quality partnerships and long term relationships with key suppliers.
4. Development of alternative sources whenever practical to achieve (1) better competition and (2) backup capability.
5. Conducting formal supplier evaluation surveys and audits.

THE BID PACKAGE

1. Scope of work: What do we want done?
2. Specifications: What standard of quality do we want?
3. Drawings: What, where, who and how.
4. Schedule: Start, finish and any immediate dates.
5. Extra work: How to handle.
6. Terms and conditions.
7. Terms of payment.
8. Warranties and guarantees.

THE BIDDING PROCESS (SOLICITATION & BIDDING)

1. **Require Site Visits:**
   a. Competent bids can not be prepared unless the contractor visits the site to get site-specific information such as:
   b. Access/Parking
   c. Lay down area.
   d. Office and trailer locations.
   e. Safety requirements.
   f. Local labor conditions.

2. **Pre-bid Meeting:**

a. Serve to make sure everyone understands the scope.
b. Allows bidders to ask questions.
c. Everybody hears the same thing.

3. **Documents:**
   a. Specifications.
   b. Addendum (written to all).
   c. Letters.

4. **The Process Must be Time Sensitive:**
   a. Bid due date/time.
   b. No exceptions.
   c. If you extend the date/time for one, you must do it for all.

5. **Analysis:**
   a. Develop a spreadsheet.
   b. Analyze the bids.
   c. Rate the offerings.
   d. Remember “ratings” are an attempt to make objective a process that is subjective.

6. **Ethics:**
   a. Be honest, above board.
   b. DO NOT REQUEST bids from unqualified vendors!
   c. DO NOT SHOP BIDS!

MAKING THE DEAL

NEGOTIATING – A THREE STAGE PROCESS

Stage 1 - **Preparation**
The most important stage.
Stage 2 - **Negotiation**
The Bargaining
Agreement
Stage 3 - **Closure**
Formalize the Agreement in Writing.

STAGE 1 – PREPARATION –
Do Your Homework:

1. Define the objectives.
2. Establish the facts.
   - Separate the supporting facts from conclusions.
   - Test all assumptions.
3. Identify your power.
4. Estimate your opponent's goals.
5. From your opponent's perspective, formulate a reasonable argument.
6. Learn as much as you can about your opponents.
7. Anticipate your opponent's arguments and develop defenses or counters.
8. Develop your tactics.

STAGE 2 – THE NEGOTIATION
A Three Phase Process:

1. Phase 1 - The Conflict Phase.

a. Establish your initial position.
b. Establish what is not going to be discussed.
c. Sprinkle your facts around but don't give up much.
d. Listen for your opponent's strategy.

Your Goals Are:

a. Look for common ground.
b. Test your opponent skills.
c. Gather as much information as possible, but give as little as possible.
d. Identify your opponents needs.

2. Phase 2 - The Honeymoon Phase.

a. This is the most dangerous phase.
b. Information is exchanged.
c. Facts are established.
d. Preliminary agreements are made – usually on minor issues.

e. Expectations are changing.
f. The form of an agreement begins to takes shape.

Your Goals Are:

a. Solidify common ground.
b. Lower your opponent's expectations on disputed issues.
c. Listen – search for a way to satisfy your opponent's needs.

3. **Phase 3 - The Mutual Respect Phase. Or "The Gotcha" Phase**
   a. The gut issues are resolved.
   b. Previous "Agreements" are reviewed and possibly modified.
   c. An agreement is reached.
   d. Egos are attended to.

Your Goals Are:

a. Establish an agreement acceptable to both parties.
b. Maximize ego gratification.

STAGE 3 – CLOSURE

1. Clear up all technical issues first.
2. Clear up all commercial issues second.
3. Clear up all price issues third.
4. Ask for best and final technical, commercial, schedule and offering price (once).
5. Make the deal.
6. Letter of Award (Authorize them to start work).
7. Write and issue a "As Purchased Contract"!
8. Negotiated agreements are rarely perfect. There is still a lot of work to be done.
9. Be aware that the agreement may have to be approved by a higher authority.
10. Be prepared to make minor adjustment to the agreement.
11. Your goal is to preserve the agreement and not re-negotiate it.

SOME USEFUL GUIDELINES AND SUGGESTIONS

1. Never underestimate the value of preparation. You can not over prepare.
2. Never make the first offer.
3. Continually evaluate your power.
4. Understand the importance of time. Use it to your advantage; don't get trapped by it.
5. Listen carefully. Your opponent will help you.
6. Present your position thoroughly. Make sure your opponent understands it and make sure you understand theirs. Don't be afraid to ask clarifying questions.
7. Control your emotions, but don't be afraid to use them.
8. Never make a unilateral concession. Always get something in return.
9. A successful negotiation requires consent by both parties. You must attend to your opponents needs.
10. Never slam-dunk your opponent.
11. In the event of deadlock:

a. Recap the negotiation to date.
b. Review the sticking points.
c. Take time out.

SUB-CONTRACTOR AND SUPPLIER ADMINISTRATION:

1. Development of time, cost and technical performance plans.
2. Establishment of effective interface and close liaison with sub-contractors and suppliers.
3. Involvement of contracts and purchasing personnel in the overall project process so they feel an integrated part of the project team and the total project effort.
4. Maintaining closely all performance, cost and schedule milestones.
5. Conducting of periodic reviews.
6. Conducting of audit and cost to complete studies.
7. Evaluation of product delivery promptly upon delivery to ensure acceptable performance.

PROCUREMENT: FOLLOW UP

1. Only work from an “as purchased” contract.
2. Write change orders in a timely manner.
3. Remember to approve/disapprove in a timely manner.
4. Pay invoices on time.
5. Shop/field inspection:
   A. Take pictures.
   B. Make videos.

LEGAL/COMMERCIAL ISSUES: -
Contracts

1. Get it in writing – if not, then someone else may get to decide what the deal was.
2. **READ ALL OF IT!**
3. Research the other party to a contract before signing – especially if you do not know them.

LEGAL/COMMERCIAL ISSUES: -
Proposal/Contract Boiler Plate

1. Boilerplate:
   a. READ IT!
   b. THIS INCLUDES THE BACK OF PURCHASE ORDERS.
   c. You may be surprised.
2. Indemnification/Hold harmless clauses:
   a. You might become an insurer.

   b. You might be responsible for the acts of other parties.
3. Watch time limitation clauses:
   a. They might shorten your statutory rights.
   b. Complaint letters are not a substitute for filing a lien of law suit.
4. Do not start performing a contract before it is signed:
   a. But if you must go ahead before the formal contract is signed, get a letter of **award** from the other party.
   b. The letter should authorize you to proceed.
   c. The letter should commit the other party to pay you for the work performed if the contract falls apart.
5. Time is of the essence clauses:
   a. This is a bad clause for the entity performing the work. If you fall behind schedule, you may be in material breach of the contract.
   b. Try to get it changed to "best efforts". Fall back position could be "Time is an important part of this contract".
6. Administer the contract:
   a. Be aware of your obligations.
   b. Be aware of dated actions.
   c. Be aware of formal (letter) action required.
   d. Put the other side on notice (written) when they fail to perform in any way.
   e. Pay on time.
7. Incentives for performance:
   a. Penalty clauses are usually **not** enforceable.
   b. Liquidated damages are usually enforceable.
   c. Early payment.
   d. Cost savings sharing.
8. Warranty clauses
   a. Written
   b. Specific
   c. Understandable
9. Limitation of Liability
   a. Consequential damages.
   b. Maximum liability.
   c. Direct damages.
   d. 3rd party claims.
10. Schedule Acceleration Clauses
   a. Gives owner the right to order overtime, extra shifts and/or additional resources if in the opinion of the owner, the contractor is falling behind schedule.
   b. Be careful, if it turns out that the schedule slippage was not the contractor's fault, then the additional cost could be for your account.

LEGAL/COMMERCIAL ISSUES – Arbitration

Why arbitration?

1. Faster – 6 months instead of the 2-3 years for jury trials.
2. Less expensive – ¼ to ½ of the cost of trial by jury.
3. Arbitrators may be picked that have specific knowledge of the matter in dispute.

4. Removes emotionalism of juries.
5. Rules of evidence are not as strict.
6. Hard to appeal.
7. Awards sometimes tend to be “what’s fair” as opposed to “what is the strict legal interpretation of the contract”.

LEGAL/COMMERCIAL ISSUES –
Terms of Payment

1. 30 days after “approval” of invoice.
2. Base it on easily identified physical milestones.
3. Hold back at least 10% pending proof of performance.
4. If proof of performance is delayed or is a long time off, consider paying the cash in exchange for an irrevocable letter of credit drawn on a local bank in your favor.
5. Make sure that all it takes to draw the irrevocable letter of credit is a notarized statement by an officer of the company that the supplier has failed to perform.
6. Do **not** let letters of credit expire before proof of performance.
7. Performance bonds are hard to call.
8. Liquidated damages on schedule performance are hard to enforce.

PROJECT CLOSEOUT
The forgotten phase

1. After the final deliverable is delivered to the customer, most project teams think they are done – that the project is over. ***But they are wrong!***
2. They still need to complete the last phase of any project, project close out. However, few do it.
3. **Why?**

WHY PROJECT CLOSEOUT?

1. Capture lessons learned. Good and bad.
2. Transmit lessons learned to other team members.
3. Receive final grade from customer.

PROECT CLOSEOUT: EVALUATION –
Customer Input

1. Is the customer satisfied with the final deliverable?
2. Did it meet their needs?
3. Did it meet their expectations?
4. How would they rate the process?
5. Were they kept informed on project status?
6. What should we do differently next time?

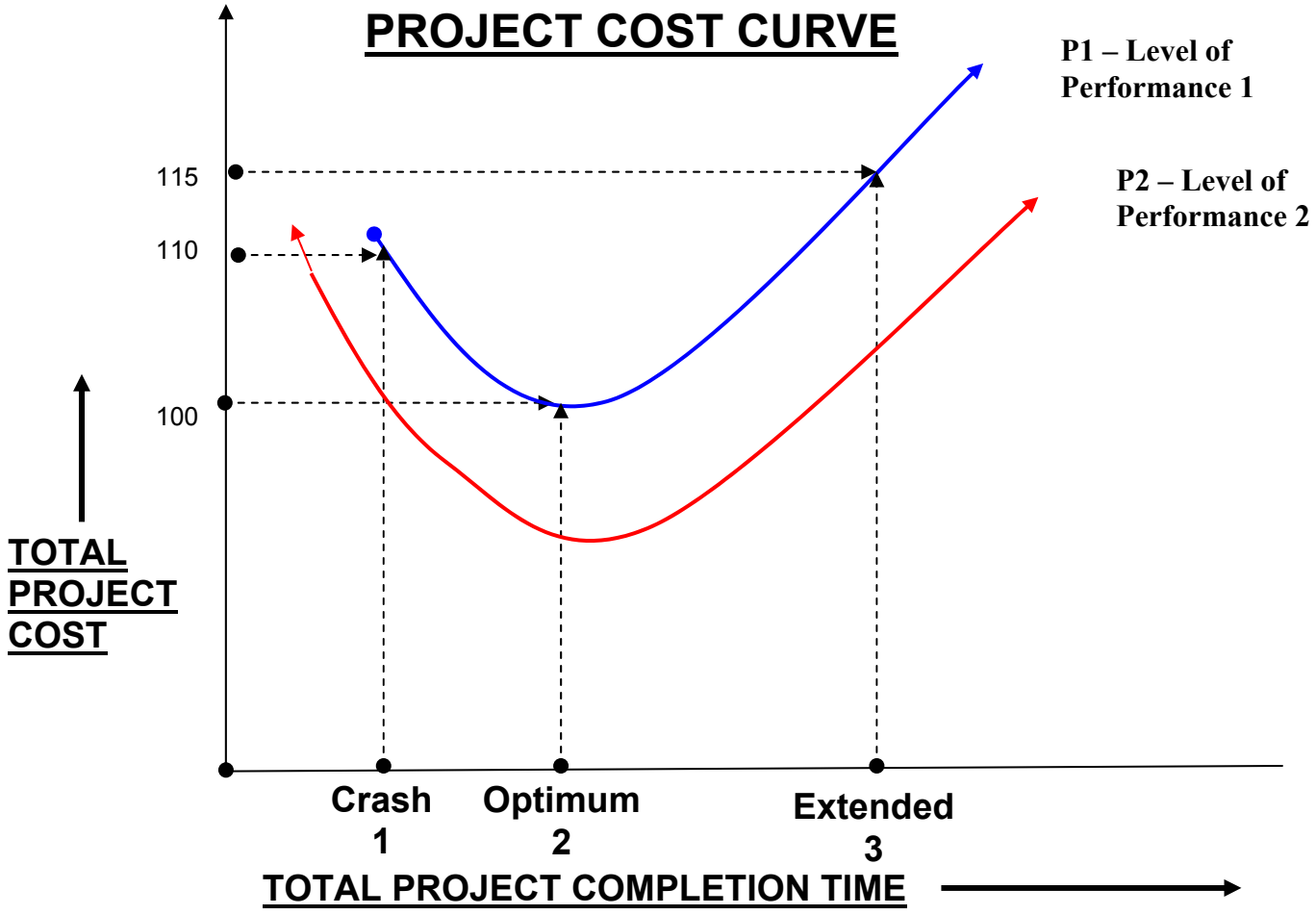
PROJECT CLOSEOUT: LESSONS LEARNED –

Sponsor, Stakeholder and Team Member Input

1. What went well?
2. What would they change?
3. How well did the team work together?

PROJECT CLOSEOUT: WRITTEN REPORT

1. Executive summary.
2. The final status report:
   a. Customer rating.
   b. Budget performance.
   c. Schedule performance.
   d. Changes.
3. Lessons learned.
4. Recommendations for improvement.
5. Publish it!



WHAT DOES THE PROJECT COST CURVE (page 84) TELL US?

At a given level of performance P1 (40 tons/hour or whatever), there is a project completion time (Optimum 2) that represents the lowest cost (100).
If the project is delayed and takes more time than planned (Extended 3) then the cost will go up due to the same people being on the project longer (maybe to 115 +/- or more).
On the other hand, if you try to accelerate the completion from the original plan, the cost will also go up due to more people, overtime, overlapping trades, stacked trades, inefficiencies, etc. (maybe 110 +/-, it could be much more).
If neither of these outcomes are acceptable, if you must finish on time and on budget, then the **only** solution is to lower the required performance level to P2 (30 tons/hour). Curve P2 crosses the cost line at 100 even for the Crash 1 time. Curve P2 crosses the cost line above 100 for the Extended 3 time. A further reduction in performance, maybe to P3 (25 tons/hour) might be necessary in order to bring the project back on schedule and back on budget.
Now we see how important the schedule is. Faster or slower for a given level of performance will always result in more cost!
Given all we have learned so far, there are three aspects of project results. They are:

1. On budget
2. Performance (It works as expected)
3. On schedule

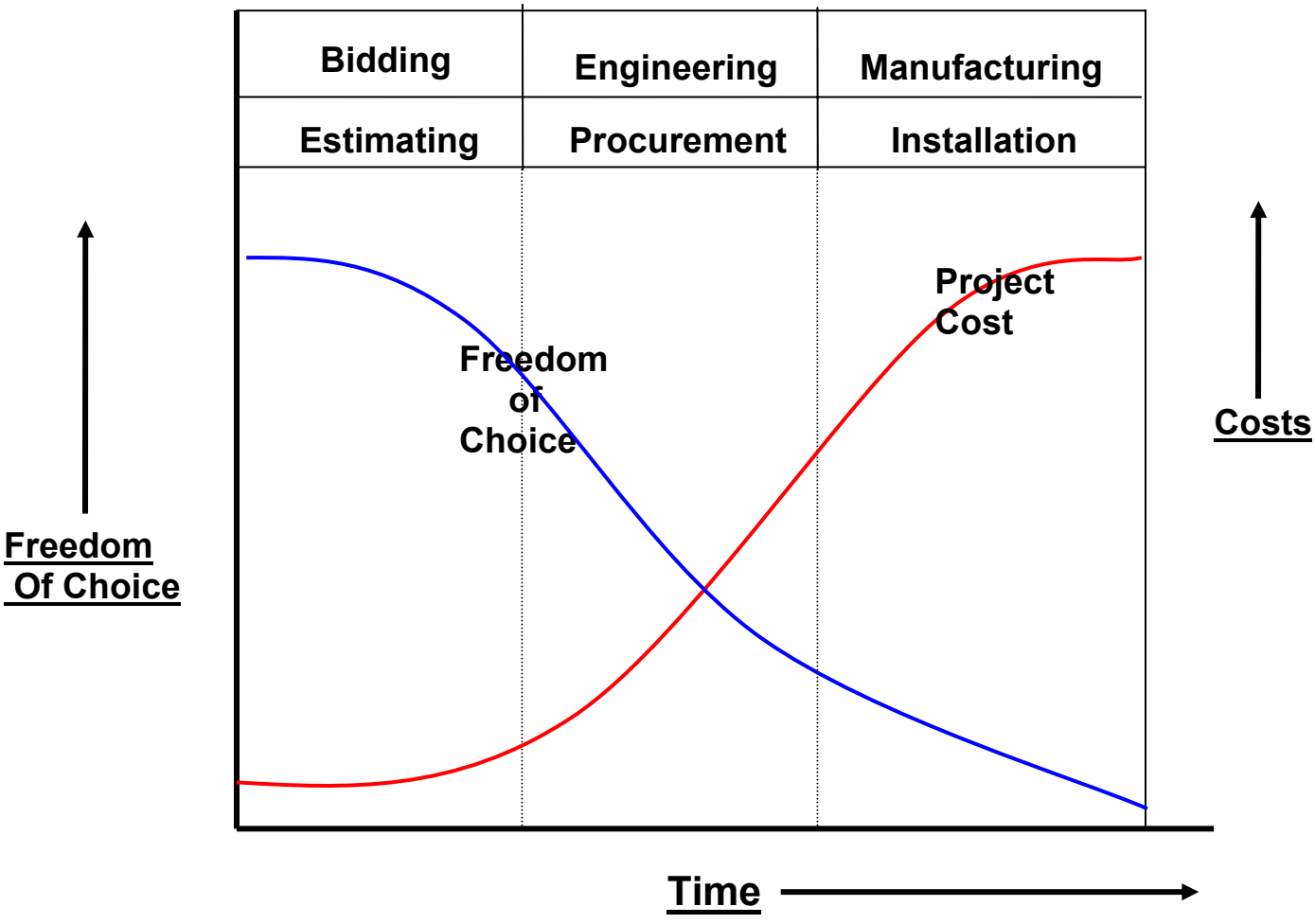
What is the order of priority?

Number 1 is: Performance
If the product or system does not work or perform as expected, nothing else matters. Schedule is no longer important and how much it costs is no longer known (because it is going to cost a lot more). Performance is without a doubt **number 1**!

Number 2 is: Schedule
As you can see from the Project Cost Curve, if you do not manage the schedule, you will not like the results. If you manage the schedule, you generally will like the budget results.

Number 3 is: Budget
If you take care of business managing the performance and schedule, you will generally like the budget results. On the other hand, if you do not manage performance and schedule, I guarantee you will not like the budget outcome.

FREEDOM OF CHOICE VS. COST CURVE



WHAT DOES THE FREEDOM OF CHOICE VS. COST CURVE (page 86) SHOW?

It shows that early in the project, you have the highest level of freedom of choices. Usually as freedom of choice increases the cost for those choices decrease.
As the project progresses toward completion, three things happen: The remaining time diminishes, the project cost increases and consequently the freedom of choice drops. As we get closer and closer to the end, we reach a point where our freedom of choice is close to zero. At that point, the only decision that can be made is the one that results in completion on time, almost regardless of cost.
This is one of the reasons why decisions need to be made in a timely manner. Sooner rather than later usually results in lower overall cost.

PROJECTS IN TROUBLE

What to do?

1. Identify top 3 problems.
2. Assign a project team member to each problem (sub project manager).
3. The sub project manager plans to resolve the problem.
4. The plan typically includes:
   a. Who owns the problem.
   b. Activities required to resolve the problem.
   c. Owner of each activity.
   d. Dependencies that each activity has on others.
   e. Duration of each activity.
5. Track the plan on a daily basis! Remove when solved!

ACTION REGISTER

DATE:			
PROBLEM NO.	**DATE PROMISED**	**ACTION STEP**	**PERSON ACCOUNTABLE**

Project Manager's Role

1. Show leadership.
2. Show urgency.
3. Show discipline.
   a. Identify
   b. Assign
   c. Track
   d. Resolve
   e. Close