Description

- Before any project can proceed be it anything from basic research to construction, a clear, concise statement of what is to be done and how it is to be done is needed -- this is called a proposal -- it also could be called a prospectus, funding application, or work statement.

- A proposal may be needed whether it is a formal request for funds from some source outside an agency or an informal internal request for a project.

- Basically the proposal answers four questions:

  1) What will be done? i.e. there is a sentence that begins, "The objective of the project is to . . ."

  2) Why is it an important thing to do? i.e., there is a sentence that begins, "This is important because . . ."

  3) What is the scope of what will be done? i.e., there is a sentence that begins, "The project will be limited to . . ."

  4) How will this be done? i.e., there is a sentence that begins, "The work will consist of ____ tasks, . . ."
Purpose of Proposal, Prospectus or Work Statement

- Primary
  - to plan how to accomplish an objective
  - to organize and think through what you intend to do
  - as a mechanism to assist in planning a project
  - to avoid going off on tangents, spinning wheels, etc.
  - your ability to express yourself clearly
  - to write well is critical!

- Secondary
  - really of lesser importance
  - to acquire necessary resources (MONEY!) to enable you to accomplish your objective
  - or perhaps,
    - to meet some request or requirement (you really don’t want to do it.)

- Beyond this, a proposal also supplies other information, i.e.
  - Background material -- what is the experience of the institution or people involved in a project, history of past work and development, etc.
  - Legally required information, i.e. information that is needed to demonstrate that the applicant has met certain agency and/or legal requirements. Stuff like:
    - Compliance with civil rights laws
    - Compliance with environmental and/or hearing requirements
    - Official actions of councils, boards, etc. as needed.
    - Statement by legal counsel that applicant is qualified to receive funds and execute contracts.
    - Statements that area planning review requirements (A-95) have been met.
    - Etc. See your friendly local guidelines.
    - Description of how project is to be administered and organized. Who's in charge, who reports to whom, project schedule, etc.
    - Budget -- What will be the cost of this design effort, by item, and who is paying for it and when. This is a budget for the design project, not for the item that is being designed.
How Projects Get Started:

- Usually before a project starts there is some indication by someone that a particular problem needs attention and that they want a proposal, i.e.

  - RFP -- Request for Proposals, or an announcement of a Program -- usually a document that outlines a problem which someone would like to have solved. These are usually sent out to a list of "qualified bidders" or to anyone who wants them. Federal projects are announced in Commerce Business Daily.

  Other projects -- project guidelines are distributed to candidate agencies. [May be necessary to establish an office to coordinate and filter all this -- i.e. the university has an Office of Sponsored Research that gets such material, sorts through it, and sends it to people who potentially are interested. Also they assist in interpreting the guidelines and budgeting and also in project administration. Consultant firms have similar groups, trend to be more aggressive -- "promotion."]

- Or it could be an unsolicited proposal -- i.e. it is prepared and sent to an agency that may not have asked for it. Usually not a good idea unless the agency has a specific program set up for this (then they issue and RFP for unsolicited proposals . . .) if they like it, they may have to issue an RFP anyway. There are all kinds of procurement regulations; it’s best to go talk to people. But at the local level or working with the private sector an unsolicited proposal may work better.

- For contracts, i.e. construction, these are usually advertised in official newspapers and trade journals.

  - In this case, what is to be done is specified very exactly; "contracts awarded to lowest bidder . . .except . . ."

  - Studies and design projects are generally not awarded on least cost basis. That is "unethical" in the eyes of professional engineers, architects, but recent court decisions, etc. have changed this.
## Proposal Outline

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Components of the Body of the Proposal

- Problem Definition -- Background Information
  - Need to clearly explain several items:
    - Define the problem.
    - Demonstrate that you understand the problem, recognize the issues and know the state of the art.
  - Need to relate the problem to reality, i.e. how are people being poorly served, what is wrong?
  - Useful to quote people, use references. Demonstrates your level of knowledge of the topic.
  - Need to Know list.
    - What do you need to know to work on the problem?

- Statement of Objectives
  - Very important, essential. This says what you want to do. The failure to develop a clear objective is the biggest cause of project failure.
  - Short, concise statement that begins, "The objective of this project is to . . ." (examine, develop, analyze, explore). Maybe two or three sentences.

- Project Scope
  - It is important to make clear the limits of the project. Specify where you begin (assumptions, what work has been done by others) and where you intend to end.
  - The scope usually says what will not be done, sometimes with a sentence that says, “The project will be limited to . . ., and will not . . .”
  - The project scope could include a list of alternatives to be studied and a list of criteria that will be used. This is sometimes done through a series of scoping meetings between client and consultant, often with public input.
  - Some of the issues dealt with in project scope could include geography, stage in the design process, factors to be considered, alternatives to be analyzed.
  - Failure to adequately define the project scope can lead to false expectations and difficulty in meeting any type of a reasonable schedule.
- Project Approach, Set of Tasks to be Performed

- This says how you intend to do things. Need to divide the work into steps, tasks, or phases, the more specific the better.

Divide the work up into distinct pieces:

"The project shall consist of ___ tasks;" i.e. steps are as follows:

- Information gathering
- Analysis
- Draw recommendations
- Documentation

Or:

- Modeling
- Validation
- Analysis
- Recommendations

Or:

- Development of General Specifications
- Identify Alternatives and Criteria
- Forecast Performance of Alternatives
- Evaluation and Selection
- Development of Preliminary Design
- Approval
- Development of Final Design
- Approach

Or:

- Problem Definition
- Alternatives
- Evaluation

This Part Is Very Important:

- Don't promise what you can't deliver. A couple of sentences that go too far can cause very difficult problems later B sometimes the best thing that can happen in such a case is to be turned down.

- Don't be too broad, i.e. the proposal says it will solve many problems, or all problems for $8,000. Be realistic. Again, think of what you can do if you had a chance to do it.

- Be specific, avoid generalities. It is easy to see through them. It should make sense. Do what is reasonable and possible within the resources available.
Application/Expected Benefits

- Answers the question, "why?"
- Need to indicate what useful things will result if the project is funded and successfully completed.
  - This is why it is to be done.
  - If there is little useful output from it all -- why do it?
- Proposal evaluator wants most bang for the buck -- this is the bang part.

Management Plan

- The management plan ties together tasks, time schedule and budget. It is necessary to clearly identify who will do what and when. It is another essential component of a proposal.
- All three (tasks, schedule and budget) should fit together.
- Have a key person identified as the project manager, responsible for the job getting done.
- May also have an administrative official. Keeps records, finances, etc.
- Key Elements:
  - Schedule
  - Resource allocation: by hours, days or work months.
  - Budget

Time Scheduling

- Several methods are available, task flow, Gantt chart, blob chart. A realistic schedule with well defined events (milestones) is needed. In some cases, “project deliverables” and payment are directly keyed to the schedule.
- Task flow diagram. This shows the project tasks and how they fit together, not strictly a schedule but an indication of the sequence of tasks.
- Gantt chart. Diagram that shows tasks versus time. Tasks are displayed as bars which indicate beginning and ending times. See example.
Gantt Chart Example

TASK
A  DATA GATHERING
B  COURSE OUTLINE
C  STUDENT PACKAGE
D  INSTRUCTOR'S GUIDE
E  TRAINING AIDS
F  PREVIEW PRESENTATION
G  PILOT COURSE
H  REVISIONS, REPORT

Month
Resource Allocation

- Need to indicate the level of resources (hours, days, months) expected to be expended by each person in each task. See example.

- Shown in a table which lists the tasks and people and the estimated effort in each cell.

- Used as an input to budgeting. You need to know how much effort per person in order to determine costs. Also can provide costs per task.

- Sometimes used to evaluate a proposal. What is the average cost per hour of effort?

Blob Chart

- Shows schedule, assignments and tasks in a single diagram, with schedule on vertical axis and people on the horizontal axis.

- Tasks are shown as “blobs” within the available schedule and resources.
## Resource Allocation Example

### Staffing Assignments/Task Breakdown

<table>
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<tr>
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<th>ROLE</th>
<th>PHASE I</th>
<th>PHASE II</th>
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**Note**: All times are given in person-months. For evaluation purposes one person-month is 173 hours.
Budget

- Obviously a crucial phase. Need to provide a proper amount of funds in order to do the job right; need to be careful, don't kill a giant with a fly swatter, don't forget costs!

- Types of budgeting

  - Lump sum/fixed price -- i.e. you indicate a cost at which you think you can do the job. If you get it that is all the money you will get B no matter what it costs you.

  - Unit price -- you get paid so much per billable hour for expanses as they occur.

  - Combination -- you submit a budget that gives you maximum per category and you are reimbursed for actual expenditures, subject to audit. This is most common for engineering-type projects. Funding agency may be billed every three months. Get audited occasionally.

- Budget may be

  - Overall budget for the project regardless of phases or steps in the project.

  - Separate budget for each phase of the work, i.e. so much for data collection, analysis, documentation, etc.

  - Program budget B where there are separate programs -- i.e. parts of a project -- these can be budgeted separately, i.e. short term improvement program, marketing program, minority program, long term, suburban, etc.

- Budget categories:

  - Major part of money goes to pay salaries of people involved in a project.

  - Budget includes

    Direct cost
    Salaries
    Fringe Benefits
    Equipment
    Expense

    Indirect cost
    Overhead

    Profit? If it is a profit-making firm, you can charge a fee (usually 10-15%) as a profit on the project.
- Direct cost

Salaries

Estimate time commitments of people involved. How many days, months, etc. Be realistic: Determine number of work-days or whatever and multiply by rate/work-day or month. In some cases the person is named and their salary (or estimated salary for next year) are used.

Include salaries of
- professionals, i.e. project leader, team members
- secretarial staff
- draftsmen, technicians, etc.
- everyone who will be doing the work on the project. If you forget to include people, you will not receive funds for costs you incur.

Fringe benefits -- social security, insurance, pension, etc. Usually a fixed percentage of salaries (may differ for different types of employees).

Equipment -- permanent stuff, capital.

Usually not possible to buy permanent equipment in this type of work, but a project budget may cover cost of renting or leasing it (if it is cheaper to buy you might be able to). See your friendly guidelines. They assume you have computers, software, typewriters, etc, etc..

Expense

General category covers all non-capital, non-salary expenses. Includes
- Supplies -- paper, pencils, reports, film, etc.; whatever it is you need.
- Travel -- may be necessary to have site visits, out of town meetings, mileage, etc.
- Computer time -- give an estimate, what will it be?
- Publication costs -- cost of publishing a final report; duplicating and copying costs.
- Space -- may include costs of renting or using space for project (but may not -- part of overhead).
- Consultants -- outside help, etc.
- Indirect Costs

- Overhead -- costs of maintaining an office, etc., light bill, toilet paper, administrative people, etc., etc. Usually a rate fixed by audit -- percent of total cost, or percent of salaries. Typical rates are about 50% at university; 100% + at consultants. Can vary widely; depends on what is included and the basis for calculation. Overhead can be a percentage of all costs, a percentage of salaries or a percentage of other cost items.

- Note: Games can be played here. If you already had money in your budget for overhead and salaries and now someone else pays for it, you can free up money to do other things -- i.e. write proposals, acquire equipment.

Do your budget on a spreadsheet. It is a useful tool for fine tuning and refining the project.
Example Budget

Salaries

- 30 work days @ $300, project leader George Hustlebuck: $9,000
- 120 days @ $150 – assistant: 18,000
- 100 days @ $75 – secretarial: 7,500

Total salaries: $34,500

Fringe Benefits – 15% of salaries: 5,175

Equipment

- Gloppda Gloppda machine – lease 6 months @ $200/month: 1,200

Expense

Travel

- Trip to Bermuda to view Gloppda and miscellaneous: 1,500

Supplies: 500

Computer time: 1,000

Consultant – Mrs. Erma Hustlebuck: 1,500

Publication costs – 100 copies report: 1,000

Total expense: 5,500

Total direct expense: $46,375

Overhead – 70% of salaries: 24,150

Subtotal: 70,525

Fee – 15% of costs: 10,579

TOTAL: $81,104
Proposal Evaluation

- Procedures vary. Try to separate the technical evaluation (how good will the work be?) from the cost evaluation (what will it cost us?)
- Typically proposals are reviewed by an evaluation committee where each person independently rates and/or ranks the proposals. Individual ratings are then discussed and the top three to five proposals are selected by consensus of the committee (short list). Applicants are then invited to provide oral presentations of their proposals and to discuss them in front of the committee. Final selection is then by committee consensus or vote. In some cases oral portion is omitted or the selection is made by others from the short list.