

Professional Development Program in Design and Construction

DEVELOPING SUCCESSFUL "PARTNERING" RELATIONSHIPS FOR DESIGN AND CONSTRUCTION PROJECTS

For Design Professionals, Owners & Contractors

This program will explore the (1) steps, (2) procedures, and (3) guidelines for designing, writing, and implementing partnering systems. The objective of partnering is to maximize the efficiency, effectiveness, and quality of working relationships so as to deliver high-quality projects in the design and construction business. This program will study how to structure "partnering" charters. It is designed to unite the construction team, owners, and design professionals and focus project partnering.

Topics to be addressed include:

- Roles and Responsibilities of Members
- Preparation of Charters and Agreement of Working Relationships
- Benefits of Working under the Partnering Concept
- Ingredients to Effective Partnering Programs
- Successes in Applications of Partnering
- Role Playing a Day in the Partnering Development Process

October 30 - November 1, 1996

Madison, Wisconsin

**Sponsored by The Department of Engineering Professional Development
In the College of Engineering, University of Wisconsin-Madison**

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GROUND RULES

- 1. Open your mind to new ideas & to new applications of old ideas.**
- 2. Listen well & ask helpful questions.**
- 3. Be selective in which techniques you use.**
- 4. Learn more about the subjects of interest to you.**
- 5. Relax and enjoy the company of your professional friends.**

THINKING PATTERNS

Why plan?.....to evaluate

Why translate?.....to communicate

Why control?.....to achieve

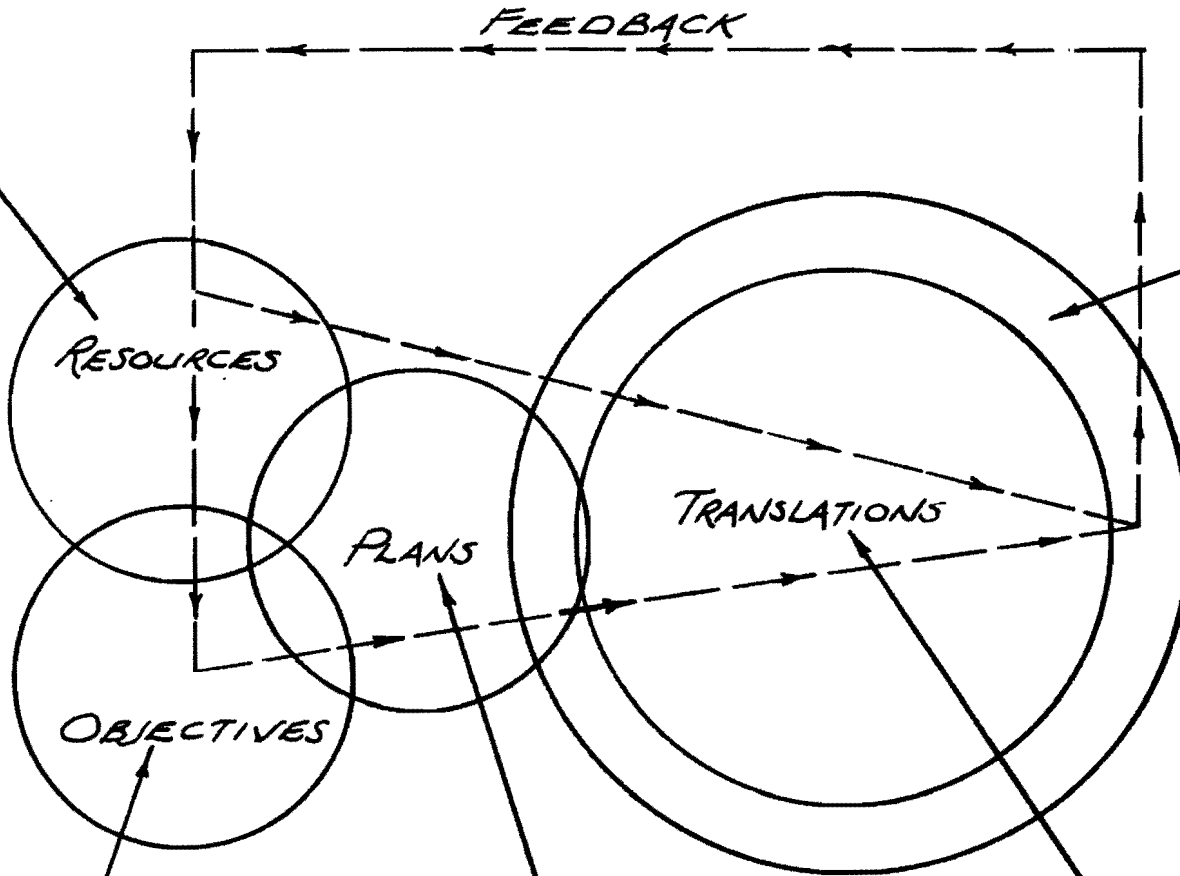
Why correct?.....to maintain

Why learn?.....to improve

APPROACH PATTERNS

- 1. Improve capabilities**
- 2. Gain control**
- 3. Expand your conceptual grasp**
- 4. Be creative**
- 5. Experiment - in the low leverage areas**
- 6. Continue to learn**
- 7. Solve problems**
- 8. Define goals & turn them into objectives**
- 9. Teach others to achieve what is important**

People
Money
Space
Time
Talent
Enthusiasm
Equipment
Materials
Etc.



Monitoring
Controlling
Correcting

PICTURE OF A PROJECT

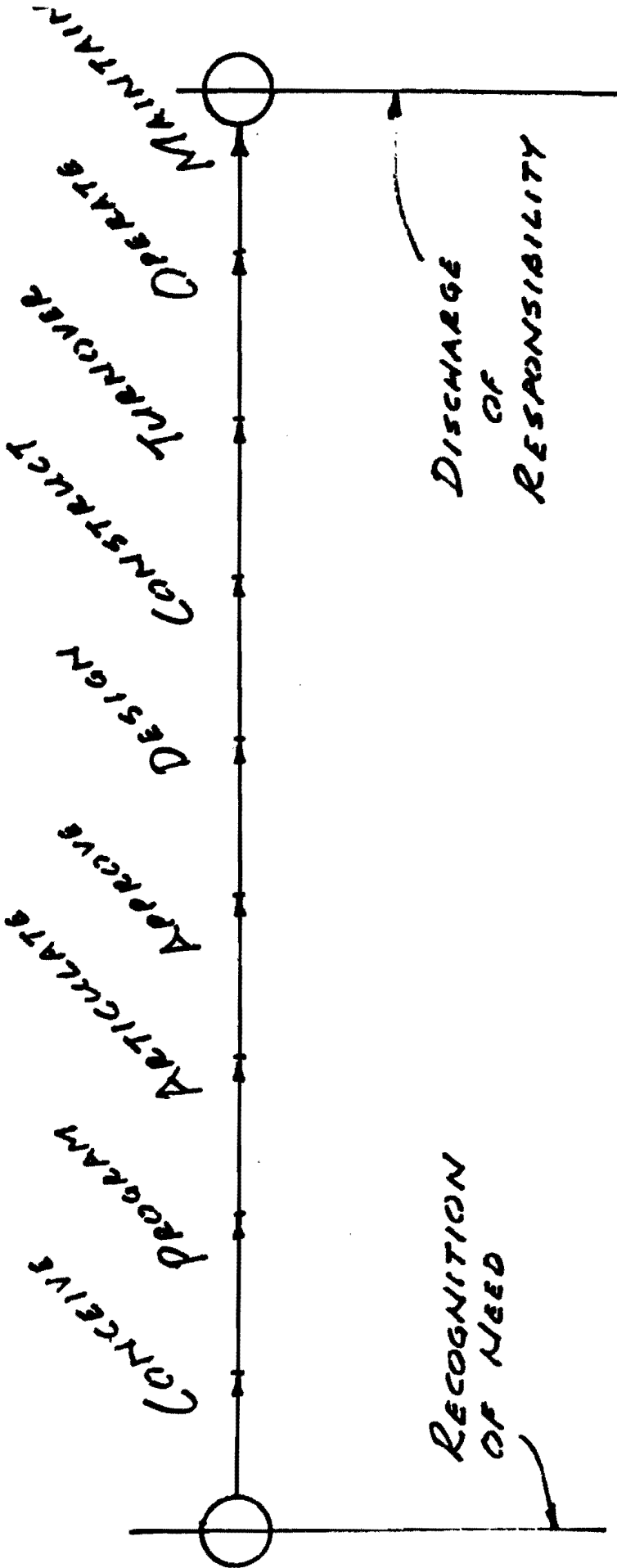
Political
Value System
Social
Economic
Self Actualized
Operating
Educational
Etc.

Drawings
Networks
Flow Charts
Specifications
Estimates
Organizational Models
Etc.

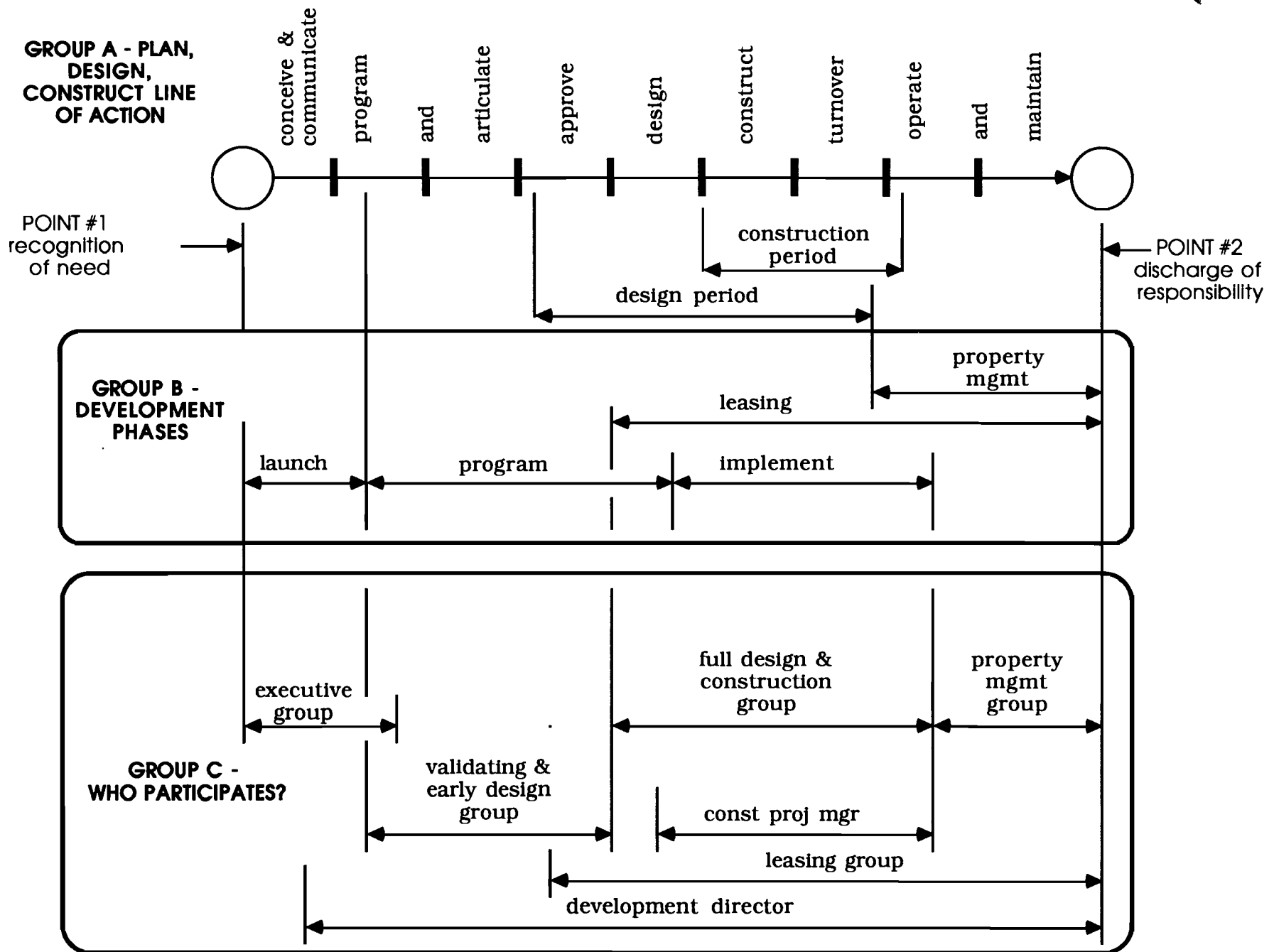
Bar Chart
Slant Charts
Oral Instruction
Decision Tables
Narratives
Etc.

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LINE OF ACTION



1.05a



DEVELOPMENT CYCLE ACTIONS AND ORGANIZATION

PARTICIPANTS IN DESIGNING & BUILDING ENVIRONMENTS

There are six basic participants in the process of designing and building environments. These are the conceiver, the translator, the constructor, the user, the operator and the regulator.

Conceivers - Those who conceive the idea and provide the wherewithal to bring the environmental program to a successful conclusion. The conceiver may be the owner but it also might be a governmental agency, a financial source, an architect, an engineer, a contractor, a vendor or a potential tenant looking for space. We identify the conceiver since he usually is the key person driving the project on to completion.

Translators - Those who translate the environmental program into construction language. Traditionally we think of the architect/engineer as the translator. However careful consideration of this matter shows there are many others who translate the conceiver's fundamental ideas into understandable, workable construction language. Subcontractors, suppliers, vendors, manufacturers, contractors and the conceiver may all play a role in translating.

Constructors - Those who interpret the construction language and convert it to a actual physical environment. Occupying this role are general contractors, specialty contractors, vendors, suppliers, manufacturers, artists and others who actually put the materials into place in the field.

User - Those who occupy and use the completed facility to conduct their work, their recreation, their domestic living, or other activities for which the facility was specifically designed and built.

Operators - Those who operate and maintain the completed physical environment on a continuing basis. Usually the party responsible for this function is an owner or tenant working through a plant or facilities manager.

Regulators - Those who fill a review & inspection position to help insure protection of the health, safety & welfare of the people. This is usually done by enforcing regulations written and adopted by qualified public or private bodies. Examples of regulators include those who work for building departments, departments of natural resources, public health agencies, fire prevention organizations, technical societies and other such groups.

Conflict and risk in the design and construction profession

I. Why has construction become so adversarial?

- A. The process of dispute resolution is not well understood.
- B. We are having increasing difficulty controlling the indirect predictable, and the unpredictable impacts on our jobs.
- C. Professional success requires we consider the following:
 - 1. Our obligations as professional planners, designers, and constructors -- hierarchy of professional obligations as formulated by Dean Freund.
 - a) First - Protection of the public health, welfare, and safety.
 - b) Second - Your employer or client.
 - c) Third - Your peers.
 - 2. The design and construction professional is obliged, above all, to protect the health, welfare and safety of the public.
 - 3. The legal professional is obliged, above all, to protect the interest of his or her client. These interests are defined by the body of law. Thus the body of law, not the law professional, is depended upon in legal resolutions to protect the health, welfare & safety of the public.
 - 4. The legal process has moved too far outside the control of those depending on its proper use to fairly resolve damaging conflict.
- D. Business success requires we take these business actions.
 - 1. Profitably produce services and facilities.
 - 2. Provide solutions.
 - 3. Measure the quality of the process we provide.
 - 4. Help manage destructive conflict.
 - 5. Encourage early action on potentially damaging events.
 - 6. Reduce professional liability costs.
 - 7. Provide a quality management process leading to a well constructed facility.

II. Some categories of conflict in planning, design, and construction.

- A. Approval processes
- B. Backcharges
- C. Being a good off-site neighbor
- D. Being a good on-site neighbor
- E. Closing out the project
- F. Communicating with others
- G. Constructibility
- H. Construction document quality
 - I. Contract interpretation
 - J. Cost growth
- K. Decision making
- L. Documents and documentation
- M. Equipment and material problems
- N. Financial matters
- O. Inspecting and testing
- P. Issue, conflict, and problem resolution
- Q. Job management
- R. Labor conditions
- S. Legal matters

- T. Maintaining regular project evaluations
 - U. Organization, authority, and responsibility
 - V. Paper work and administrative work
 - W. Payment processing
 - X. Personnel quality and problems
 - Y. Planning and scheduling
 - Z. Policies and procedures
 - AA. Procurement of materials and equipment
 - AB. Program conditions
 - AC. Project cost structure
 - AD. Quality management
 - AE. Regulatory agency matters
 - AF. Revision processing
 - AG. Safety
 - AH. Staff morale & attitudes
 - AI. Staffing and personnel
 - AJ. Submittal processing
 - AK. Substitutions and alternates
 - AL. Time growth
 - AM. Timely action
 - AN. Training
 - AO. User group interaction
 - AP. Value engineering
 - AQ. Warranty conditions
 - AR. Weather conditions
 - AS. Work site conditions
- III. **Some causes of conflict in construction**
- A. Lack of understanding that conflicts lead directly to results, bad or good
 - B. Frustration over a lack of control of events affecting performance
 - C. Differences in goals and objectives of parties in the project
 - D. Lack of understanding about the needs of others also involved in the planning, design, and construction process
 - E. Resentment or dislike resulting from a perceived lack of value being added to projects by those responsible for adding value
 - F. Excessive technical and legal delays to resolution of conflict
 - G. Excessive demands on resources normally depended on to assist in the resolution of conflict
 - H. Greed
 - I. Incorrect assumptions made from biased perceptions
 - J. Demands for higher quality than specified
 - K. Failure to meet commitments
 - L. Insufficient time to make required decisions
 - M. Lack of ability to do the job
 - N. Poor or inadequate training
 - O. Inadequate credentials to do the job
 - P. Indifferent leadership
 - Q. Actual or perceived overwork
 - R. Bad blood among participants

- S. Desire to take advantage of those in weaker positions
 - T. Misplaced attempts to demonstrate who is in charge
 - U. and many, many others.
- IV. **Why are disputes often not resolved promptly and fairly.**
- A. Differences in goals and objectives of parties to the project.
 - B. Lack of clear understandings about the design and construction industry needs.
 - C. Lack of value-added for third party interests through prompt and fair settlements.
 - D. Excessive resort to legal based delays and road blocks to resolution.
 - E. Excessive demands on resolution resources (courts, arbitrators, judges and other agencies involved).
 - F. Greed.
- V. **Seven actions to help resolve potentially destructive conflict.**
- A. Understand the cause of the conflict.
 - B. Put yourself in the other person's shoes.
 - C. Understand the relative importance of resolution versus nonresolution.
 - D. Become competent in proper application of the technical and professional tools of our profession.
 - E. Don't lie - always tell the full truth.
 - F. Understand thoroughly the obligations you have to society and to your clients, your employer, and your peers.
 - G. Understand everything you can -not just your own field-and work to be effective in managing intersections of diverse interests.
- VI. **How to recognize risk on a project (adapted from Mr. Papageorge, R. A.'s comments on risk)**
- A. Identify as many potential threats to project success as early as possible.
 - B. Identify where problems will be caused by taking risks to help assure project success.
 - C. Evaluate and analyze the project team's ability to take the risks identified.
 - D. Evaluate and analyze the project team member's abilities to take the needed risks.
 - E. Identify the impact of legal contractual obligations on the risks being considered.
 - F. Evaluate and analyze existing project conditions and the restraints they exert on the project.
 - G. Establish and implement a systematic procedure for identifying and adjusting risk to acceptable levels to assure a high probability of project success.
- VII. **Hints to help manage risk properly-these apply to all phases of the line of action, to all functions, and to all participants expected to encounter and assume risk:**
- A. Start the job at the right time.
 - B. Profile the job before committing resources.
 - C. Remember-good management is risk control.
 - D. Don't lose your personal and intellectual grasp of risk on your job.
 - E. Evaluate the quality of the total contract documents.
 - F. Obtain and read all pertinent contract documents.
 - G. Match your price to the project delivery system being used.
 - H. Avoid being made a limited agent on a hard money job.
 - I. Avoid over-the-wall management.
 - J. Keep abreast and aware of current industry trends, particularly organizational patterns.
 - K. Be aware of your client's must, want, and wish list and respect it.
 - L. Understand and account for other project participant's profit needs and desires.
 - M. Don't hesitate to scrub your proposal if the risk is excessive relative to the rewards.
 - N. Negotiate deadlines of high-risk tasks to accommodate potential slippage.

- O. Schedule tasks that can be postponed or canceled, if necessary, to later in the project.
- P. Be conservative in estimating task durations and costs.
- Q. Insert contingencies as recognizable elements of the plan and schedule.
- R. Assign strong staff to high-risk jobs.
- S. Assign back-up staff, however minimal, to any task where the loss of a team member would be damaging.
- T. Plan preventive actions that will be taken to reduce or remove risk.
- U. Plan contingency actions that can be implemented if a problem occurs.
- V. Identify circumstances that might trigger each contingency plan into action.
- W. Retain your optimism, solve problems, and keep morale strong despite setbacks caused by the winds of risk. This is your job as a leader and a manager.

VIII. Definitions

- A. **Adversarial**
Taking the position of an opponent or enemy. Opposing another's interests or desires.
- B. **Authority**
The prerogatives, either vested or acquired over a long period of time, that allow an individual to carry out their responsibilities and duties. This includes the right to determine, adjudicate, or otherwise settle issues or disputes; the right to control, command, or determine.
- C. **Conflict**
A state of disagreement and disharmony.
- D. **Destructive conflict**
Animosity or disagreement which results in lowering the potential for an individual or organization to succeed.
- E. **Dispute**
To engage in argument or discussion. To quarrel or fight. An expressed disagreement.
- F. **Partnering**
A method of conducting business in the planning, design, and construction profession without the need for unnecessary, excessive and/or debilitating external party involvement.
- G. **Positive conflict**
Hostility that is managed so its resolution raises the potential for well intentioned individuals or organizations to succeed at being excellent.
- H. **Program**
A narrative oriented statement of the needs and character of the proposed user operation, the requirements of the user and owner, the nature of the environment to be planned, designed and built, and the corresponding characteristics of the space that will satisfy these needs and requirements. Sometimes called the brief.
- I. **Quality**
A characteristic of superior excellence.
- J. **Responsibility**
The assignment, spoken or understood, that a person in an organization has as their part in maintaining the organization's health and vitality.
- K. **Resolution**
A course of action determined or decided upon that can result in clearing conflict or dispute.
- L. **Risk**
Any exposure to the possibility of harm, danger, loss or damage to people, property, or other interest. To expose to a chance of loss or damage.

Ralph J. Stephenson, P. E., P. C.
Consulting Engineer

M. *Third party*

An individual or group that is not primarily engaged in facilities programming, design, construction, or operations.

PEOPLE

**Most people are honest,
concerned, desirous of
challenge, need attention,
and welcome help in times
of turmoil.**

DESTRUCTIVE CONFLICT

**Animosity or disagreement
which results in lowering
the potential for an
individual or organization
to succeed.**

POSITIVE CONFLICT

Hostility that is managed so that its resolution raises the potential for individuals or organizations to succeed at being excellent.

NINE MAJOR STEPS TO EFFECTIVE PROJECT MANAGEMENT

DEFINITIONS

- PROJECT - A set of work actions having identifiable objectives, and a beginning and an end.
- EFFECTIVE - Of a nature that achieves identifiable goals and objectives in accordance with an action plan, and reaches worthwhile peripheral goals through intermediate accomplishments.
- MANAGEMENT - The identification, assembly and direction of resources to achieve desired results.

QUESTION

- What is different about project organization compared to functional organization?
1. Project organization is usually temporary.
 2. Project organization is usually based on a different rationale than is functional organization.
 3. Project authority positions tend to be vested first and earned later.

STEPS TO GOOD PROJECT MANAGEMENT

- A good project seems to require 9 major steps, done well, to be successful.
1. Goals and objectives for the project are clearly identified, and starting, intermediate and ending measuring points established early in the project life.
 2. A suitable project delivery system is selected as the goals & objectives are defined.
 3. An action plan showing desired and necessary courses of action from beginning to end of the project is prepared.
 4. The action plan is translated into schedules, and the resources needed are

determined and balanced for most profitable performance.

5. A project organization is built under (not over) the resources required to provide resource management quality, continuity, and monitorability.
6. A method of isolating, identifying and correcting deviations from desired performance standards is designed and put into action.
7. The needed resources are assembled and the project team gets to work.
8. Progress and performance of the project team is measured and evaluated using management by exception.
9. The project is closed out promptly, cleanly, and totally as work draws to a close.

QUESTIONS TO BE ASKED

- 1) WHAT? -- What is the scope of the activity?
 -- What is the standard of performance?
 -- What are our objectives?
 -- What are our goals?
 -- What is needed to start?

- 2) WHERE? -- Where will the work take place?

- 3) WHEN? -- When does the work start?
 -- When is the work supposed to finish?
 -- When will the work be completed?

- 4) HOW? -- How do I know when the job is done?
 -- How do I know if we've done a good job?
 -- How do I get out of the job when it's done?

- 5) WHO'S? -- Who's responsible?
 -- Who's in charge?
 -- Who's doing the work?
 -- Who's liable?
 -- Who's in charge for my client?
 -- Who's the ultimate decision maker? (UDM)

OBLIGATIONS

Hierarchy of professional obligations as formulated by Dean Freund

- *Prime - Protection of public health, welfare & safety*
- *Secondary - Your employer or client*
- *Tertiary - Your peers*

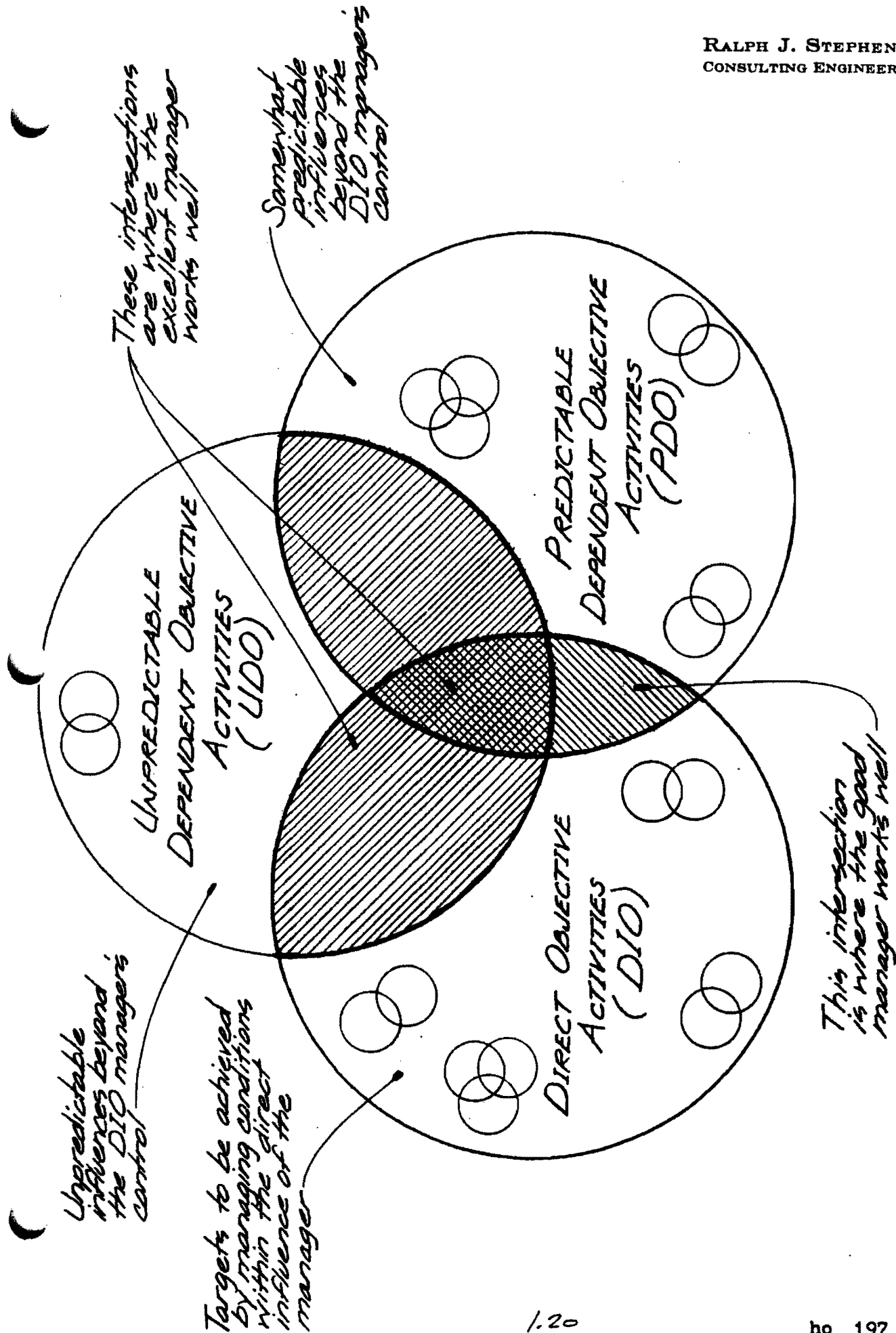
OBLIGATIONS & PROFESSIONAL **NEEDS**

- The design and construction professional is obliged, above all, to protect the health, welfare and safety of the public.

- The legal professional is obliged, above all, to protect the interest of his or her client. These interests are supposed to be defined by the body of law. Thus the body of law, not the legal professional, is depended upon to protect the health, welfare & safety of the public - relative to the law.

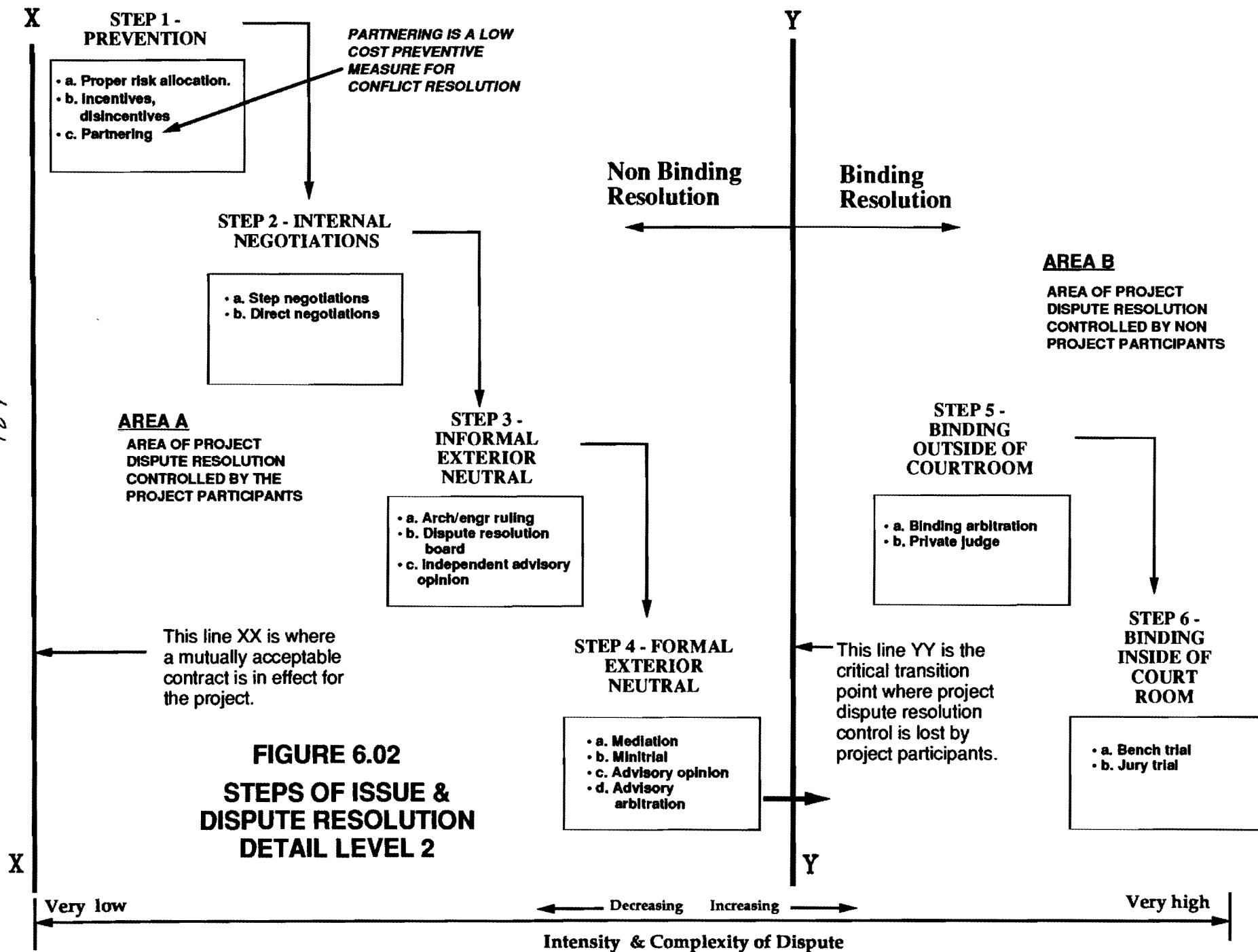
OBLIGATIONS & BUSINESS **NEEDS**

- To profitably produce services & facilities.
- To provide solutions.
- To measure the quality of the process you provide.
- To help manage destructive conflict.
- To encourage early action on potentially damaging events.
- To reduce professional liability costs.



THE DIO/PDO/UDO INTERSECTION

1/21



• ***Section #2 - Why Effective Dispute Resolution is Useful in Today's Construction Industry***

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Negotiated dispute resolution and project success

I. Definitions

A. *Binding resolution*

A third party imposed solution to a contested claim in which the conditions are legally binding on the parties.

B. *Litigation*

The process of formal legal proceedings. Usually results in permanent or temporarily binding resolution.

C. *Non binding resolution*

A suggested solution to a contested claim or problem in which the conditions are not legally binding on the parties, but are an expert's recommendations for resolution.

D. *Pro Forma*

A financial model unusually built early in a construction program to show by projecting income and expenses, how the money flow to and from the project will occur. It is often used to establish the capital amount to be allocated to a project based on simulated operating conditions. The term pro forma means according to form.

E. *Project*

A set of work actions having identifiable objectives, and a beginning and an end.

F. *Project Delivery System*

A method of assembling, grouping, organizing & managing project resources so as to best achieve project goals & objectives.

II. Introduction

A. Unresolved conflict and disputes often require that a neutral view be considered where positive change is desired.

III. What is alternative dispute resolution (ADR)?

A. In broadest terms, ADR is a method of resolving disputed design and construction claims outside the courtroom.

IV. Origins of negotiated methods of dispute resolution.

A. Informal negotiation was the delivery technique before excessive legal systems were imposed upon the industry (or were accepted by us)

B. Varies with the time.

1. In periods of exceptionally high economic activity, speculative money can be spent on expensive resolution methods to gamble for a high return on the investment.

2. In periods of low economic activity money is usually not be spent on high risk, uncontrollable methods of expensive resolution, hoping for a favorable result.

C. Today we cannot afford to spend our, nor our client's, money on high risk gambles. Therefore relatively low cost, non binding resolution processes have become popular.

D. The long lasting acrimonious atmosphere surrounding binding resolution methods has proven demeaning, unpopular, negative, and harmful to the design and construction professional who wants to practice effectively.

E. Temporary adversarial positions taken during short time alternative dispute resolution often helps heal business and professional wounds very rapidly.

V. ADR guidelines for effective project use

A. A basic ADR principle - The earlier in a construction project that the participants employ alternative dispute resolution techniques, the more these techniques will contribute to project success.

- B. Even when problems turn into disputes, litigation should not be the initial method used to resolve them.
 - C. Non-binding dispute resolution should be attempted before resorting to binding dispute resolution.
 - D. Advance commitment to ADR methods, contributes to effectively and fairly solving problems as they arise.
 - E. A cooperative project environment helps prevent disputes.
 - F. Job site dispute resolution often helps dispose of problems as they arise & before they multiply.
 - G. Dispute resolution proceedings should be conducted expertly, and effectively by experienced *design and construction* practitioners.
- VI. What is needed for success in resolving disputes?
- A. A comprehensive, clearly written initial program statement that clearly defines measurement yardsticks for the entire project.
 - 1. The character and needs of the proposed user operation.
 - 2. The requirements of the user and owner
 - 3. The nature of the environment to be planned, designed and built
 - 4. The characteristics of the space that will satisfy the user and owner's needs and requirements.
 - 5. A proforma analysis and project budget that properly accommodates three levels of user and owner needs.
 - a) Must list
Those items that must be included in the scope of work to make the project a go. If any of the items in the must list are not able to be included the project is a no-go.
 - b) Want list
Those items that are wanted and might be possible to include in the scope of work, over and above the must list items, since they provide a definable and acceptable rate of return on their cost.
 - c) Wish list
Those items that the owner and the user wish they could include but might not be able to due to budgetary or other reasons.
 - (1) Note that affordable wish list items are best added, not deleted, as the project moves into construction.
 - 6. An analysis and preliminary recommendation of the project delivery system best suited to the project.
 - B. A strong desire for a fair resolution, equitable for all involved.
 - C. People in charge who want a fair resolution.
 - D. A dispute resolution technique that is acceptable to those involved.
 - E. The knowledge of how to arrive at a resolution system that can produce a decision.
 - F. An understanding and agreement with the belief that *if you aren't entitled to it don't try to get it!*

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- **Summary**

In the design and construction industry there exist many factors which influence the degree of success achieved on a project. They deal with project goals, profit types, project sequencing, the nature of the participants and the kinds of problems most likely to be encountered.

If the parties to a planning, design and construction program recognize the nature and importance of these factors, a major step will have been made toward their proper and effective combination and management.

Below are listed 38 basic influences on project delivery systems. Project management concerns how to combine these into a successful job of which all participants are proud.

- **Six major goals to meet for design & construction project success**

The client, owner & user must be assured upon completion of his job that:

1. The facility program and the facility design have met their needs, desires and wishes.
2. The planning, design and construction work on the project has been accomplished within the time and cost structure required and desired.
3. All relationships on the project have been maintained at a high technical and professional level, and have proven rewarding for those involved and affected.
4. The people involved at all levels of work on the job have realized a financial, professional and technical profit for themselves and their associates by being on the project.
5. The project has been closed out with little or no residual potential for major problems of maintenance or operation.
6. The entire process has been free of unresolved contested claims for additional money, additional time, damage payments, and of the potential for future financial demands after the job has been closed out.

- **Seven types of profit**

1. **Financial** - an improvement in a money position
2. **Social** - a gratifying experience contributing to society's well being
3. **Self actualization** - a gain in personal non financial satisfaction by contributive work
4. **Value system** - reward gained by application of values in which one believes
5. **Technical** - acquisition of technical skill or technical data of value
6. **Enjoyment** - personal enjoyment of a situation gained from involvement in it
7. **Educational** - learning made possible only by efforts exerted in any given situation

• **Nine major elements in the design & construction sequence & how they are done**

1. **Conceive the basic project**
Visualize and state the fundamental nature of the proposed project, what purpose it is to serve, and its base characteristics.
2. **Prepare the program**
Set down the physical characteristics of the total project in written and graphic form so as to be able to translate these characteristics into approval documents from which the full design can proceed.
3. **Articulate the program for approval**
Merge the concept, and the written and graphic program into written and graphic construction language which can be reviewed and released by the ultimate decision makers for full design.
4. **Approve the basic project**
Approve the concept, the program, and the merging of the two. This approval by those in authority initiates the full design and construction process
5. **Design the project**
Prepare full contract documents for construction use.
6. **Construct the project**
Build the project and make it ready for turnover to the owner or user.
7. **Turn over the project**
Release the constructed project to the owner or user with full documentation needed to operated and maintain the completed environment.
8. **Operate the project**
Take over, run in, and make the new environment fully operational.
9. **Maintain the project**
Keep the new environment in proper operating condition by a well conceived and effectively managed maintenance effort.

• **Six major participants in the design & construction process**

1. **Conceiver** - The ultimate decision making force behind the entire program
2. **Translators** - The parties that translate the project concept into construction documents
3. **Constructors** - Those who build the facility
4. **Operators** - Those who operate the completed facility
5. **Regulators** - Those who help assure project adherence to the cause of public good
6. **Users** - Those who occupy and use the facility for the purpose for which it is intended

• **Ten major types of design & construction problems**

1. **Constructive acceleration**
An action by a party to the contract that forces more work to be done with no time extension, or the same amount of work and a shorter period of time in which to do it.
2. **Constructive change**
A construction action or inaction by a party to the contract that has the same effect as a written order.
3. **Defective or deficient contract documents**
Contract documents which do not adequately portray the true contract scope.
4. **Delay**
A situation, beyond the control and not the fault of a contract party, that causes a delay to the project

5. **Differing site condition**
A situation in which the actual conditions at the site of a project differs from those represented on the contract documents, or from reasonable expectations of a site in that area.
6. **Directed change**
A legitimate change within the contract scope for which the owner is obligated to pay.
7. **Impossibility of performance**
A situation in which it is impossible to carry out the work within the contract requirements.
8. **Maladministration**
The interference of one contract party with another contract party's rights, that prevents the latter party from enjoying the benefits of least cost performance within the contract provisions.
9. **Superior knowledge**
The withholding of knowledge by one party to a contract from another party to the contract during the precontract period, and that, subsequent to contract execution, adversely affects the second party's construction operations in matters of importance.
10. **Termination**
Dismissal of a party to the project contract for convenience or default.

PROJECT DELIVERY SYSTEMS & THEIR USERS

DEFINITION - A method of assembling, grouping, organizing and managing project resources so as to best accomplish project goals and objectives.

THOSE WHO USE PROJECT DELIVERY SYSTEMS & INFLUENCE THE SELECTION OF THE SYSTEM

Concelver - the ultimate decision making force behind the entire project

- Developer
- Owner
- User

Translator - transfers the concept into construction documents

- Programmer
- Designer
- Manufacturer
- Vendor
- Contractor

Constructor - builds the components and the job

- Manufacturer
- Vendor
- Specialty contractor
- General contractor
- Construction manager

Operator - operates the completed project

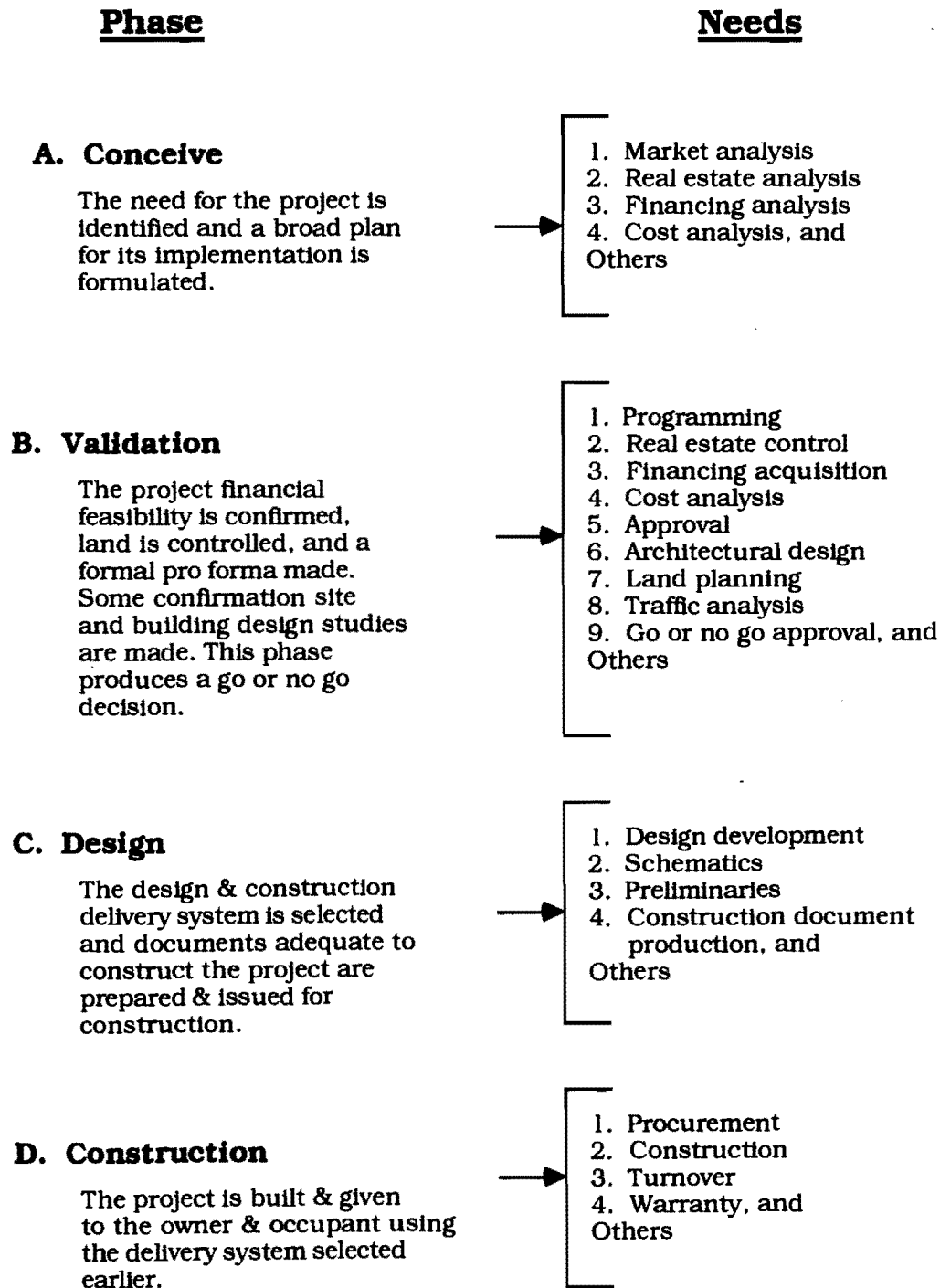
- Facilities planning
- Operation management
- Plant engineering
- Manufacturing engineering

Regulator - insures project adherence to the public good

- Private
- Public
- Quasi public

1. Project Delivery Work Phases

Ralph J. Stephenson PE
Consulting Engineer



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TRADITIONAL PROJECT DELIVERY SYSTEM
CHARACTERISTICS

1. Checks and balances normally built in from start
2. Construction decisions usually based on capital costs
3. Participant selection often made by cost competitive bidding
4. Job control is highly centralized in most stages
5. Project usually being built for owner/users
6. Contract documents completed before bidding
7. Bidders selected from short list derived from long list (occasionally use long list)
8. Bonding is often required
9. Site preparation and expense work often by owner before construction starts

Note - Expense work includes those costs that do not directly increase life or value of the facility.

10. Majority of attention given to the need and want list. Wish list usually considered a luxury.

NON TRADITIONAL PROJECT DELIVERY SYSTEM
CHARACTERISTICS

1. Checks and balances evolve as project proceeds and when need arises.
2. Construction decisions based on capital costs, maintenance costs, operating costs, project quality desired, and desired investment return.
3. Lead participant selection made on professional and technical abilities, and on reputation and past performance, along with estimated project cost.
4. Job control somewhat decentralized during early program and design stages with progressive centralization as the working document and construction phases are approached.
5. Project could be for a variety of conceivers and prime movers including owners, users, investors, developers, funds, syndicates, governmental agencies (privatisation), and groups assembling capital to gain desired returns on investment.
6. Construction is often closely dovetailed with design of the project. Design usually proceeds with construction guidance, and advice from a construction discipline.
7. Capital cost is often negotiated from the pro forma base and reduced in stages to a guaranteed maximum price (gmp).
8. Need for bonding is usually minimized or eliminated by careful selection procedures to maximize probability of success.
9. Site preparation and expense work often done by various members of the selected project or program team.

Ralph J. Stephenson PE PC
Consulting Engineer

Note - Expense work includes those costs that do not directly increase life or value of the facility.

10. Design and construction is heavily influenced by consideration of the needs, wants and wishes of the participants.

QUESTIONS TO CONSIDER

Guides to Ethical Decision Making

1. Is my decision legal?

- Does it violate civil law or company policy?

2. Is my decision balanced?

- Is it fair to all concerned in the short and long term situation. Does it avoid sum zero situations?

3. How will my decision make me feel about myself?

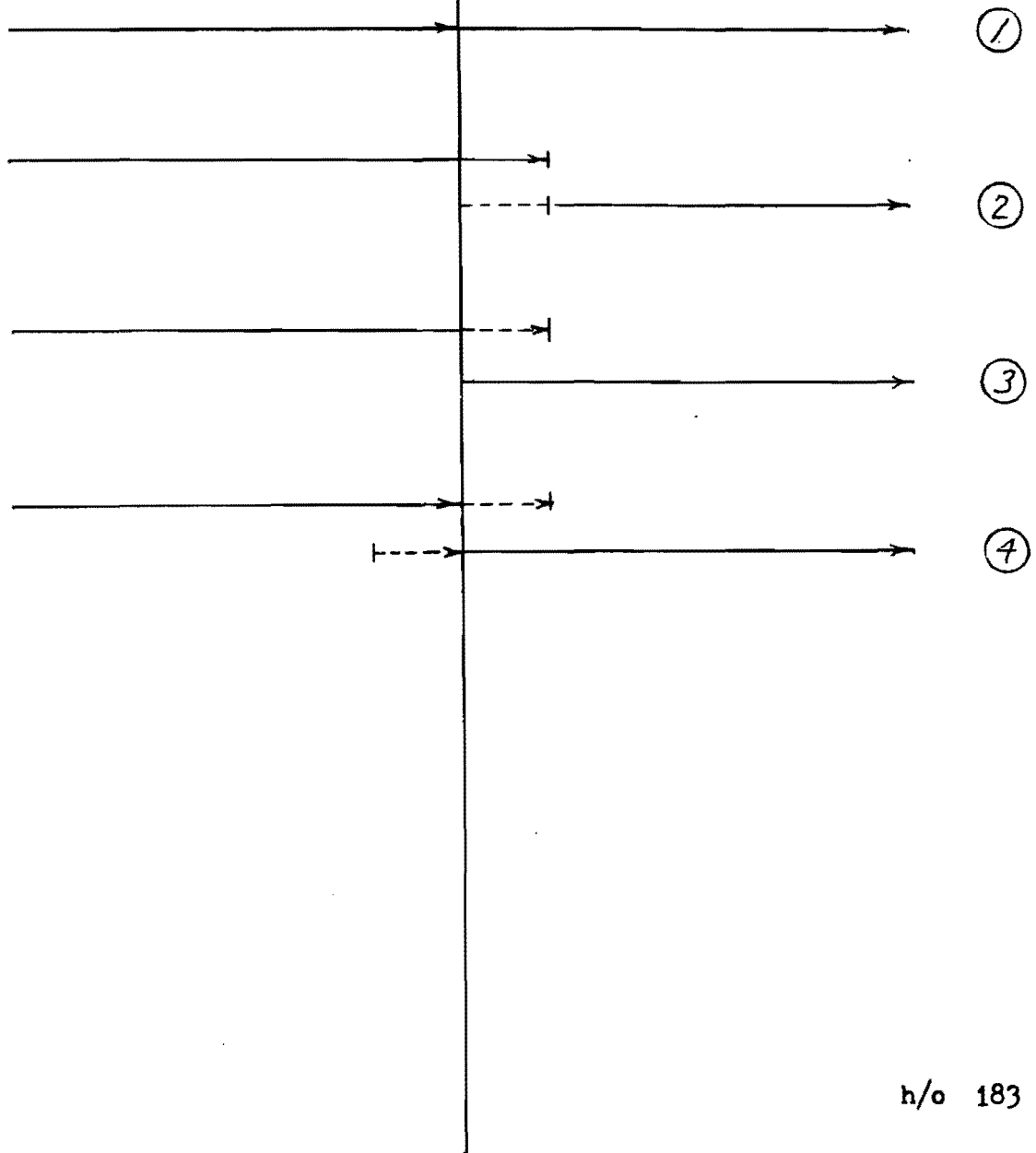
- Will it make me proud?
- Will I feel good if it is published in the newspaper?
- Will I feel good if my family finds out about it?

Adapted from "The Power of Ethical Management"
by Kenneth Blanchard & Norman Vincent Peale

CRITICAL TRANSITION POINT AT WHICH
EXECUTIVE ACTION BEGINS

SUPPORTING STAFF
RESPONSIBILITIES
ACTIONS & AUTHORITY

EXE'-CUTIVE STAFF
RESPONSIBILITIES
ACTIONS & AUTHORITY



Alternative Dispute Resolution Systems

I. Non binding

A. *Prevention methods* - produces maximum harmony - usually least cost.

1. Intelligent and proper risk allocation.

- a) Risk should be assigned to the parties that can best manage or control the risk - for example:
 - (1) The architect, if the owner has prepared a well conceived and clearly stated program from which to begin design development.
 - (2) The owner, if the a/e is expected to assemble and write the program.
 - (3) The contractor, where full, well prepared, and checked construction documents are available.
 - (4) The owner, where construction begins before construction documents are complete.
- b) Attempts to shift risks to architects, engineers or contractors not able to absorb these risks is not cost-effective
 - (1) Reduces competition
 - (2) Increases costs due to greater contingency allowances.
 - (3) Increases costs and reduces effectiveness because of the potential for increased numbers and intensity of design & construction project disputes.

2. Incentives for cooperation.

- a) Incentives or bonus provisions
- b) Disincentives or penalty provisions

3. Partnering.

- a) Stresses good faith agreements
- b) Emphasizes teamwork
- c) Encourages good communications

B. *Internal negotiation methods* - parties involved conduct negotiations - requires consensus - relatively cost free.

One method of using the internal method is to include an resolution method in the issue resolution policy that conflicts will first be submitted to a specified group of stakeholders for advice as to settlement methods and a possible resolution.

1. Direct negotiations (often start at UDM level).

2. Step negotiations (usually start at dispute originating level).

- a) If the dispute is not resolved at the originating level, it is moved up to the next management level until a resolution is reached.

C. *Informal external neutral methods* - selected external neutral serves as a informal dispute-resolver - relatively low cost. Usually requires nominal preparation.

1. Architect/engineer rulings.

- a) May be respected even though not legally binding.
- b) Must be impartial

2. Dispute resolution board.

- a) One member selected by owner and approved by contractor; one by the contractor and approved by the owner; a third by the first two members. Third selection usually acts as chairman.
- b) Those selected should be from the design & construction industry.

- c) Must have no conflict of interest.
- d) Conduct investigations and hearings on disputes and publish prompt opinions re the dispute.
- 3. **Independent advisory opinion.**
 - a) Mutually agreed upon neutral expert meets informally with interested parties, obtains information from both, and render prediction as to the ultimate outcome if not resolved at meeting level.
- D. **Formal external neutral method** - selected external neutral(s) serves as formal dispute resolver - relatively low cost - usually requires considerable preparation, and may require legal assistance.
 - 1. **Mediation** - settlement conferences and informal hearings conducted by a neutral third party.
 - 2. **Minitrial** - private settlement method usually initiated by an agreement between the parties - less formal than mediation.
 - 3. **Advisory opinion** - neutral expert meets formally with both parties, obtains information from both, and render prediction as to the ultimate outcome if adjudicated.
 - 4. **Advisory arbitration** - abbreviated hearing before neutral expert(s). Arbitrator(s) issue advisory award, and render prediction as to ultimate outcome if adjudicated.

II. Binding

- A. **Outside of courtroom** - dispute given to knowledgeable third party - moderate cost - may require legal assistance.
 - 1. **Binding arbitration**
 - 2. **Private judge**
- B. **Inside of courtroom** - most expensive - usually requires legal assistance.
 - 1. **Bench trial** - before a judge
 - 2. **Jury trial** - before a jury

MSPE TRAINS 25 PROFESSIONALS AS "STANDING NEUTRALS"

Answering the Michigan construction industry's much voiced call for less costly and less litigious methods of resolving disputes, the Michigan Society of Professional Engineers can provide the assistance of standing neutrals.

MSPE recently completed formal training of the first crop of 25 standing neutrals who will be available for assisting in the resolution of disputes on design and construction projects. Training for the "standing neutrals", or dispute mediators, started in January and concluded in February at sites in both Detroit and Lansing.

It's certainly high time that the professional engineers in Michigan take the initiative in rescuing confrontation and litigation problems in our industry", says Ralph J. Stephenson, PE, who is co-chairman for this MSPE initiative.

The MSPE subcommittee which is sponsoring this training hopes to make a large number of volunteer "standing neutrals" available to the design and construction community in Michigan, to impartially facilitate the solution of disputes on projects as an initial alternative to costly litigation.

A standing neutral can assist in resolving conflict at many levels and at any stage of a construction project, according to Ron Hausmann, PE, co-chairman of the MSPE subcommittee and president of Walbridge Aldinger Co. The key, he notes, is to use a standing neutral with an outside viewpoint to help bring an issue to resolution before it becomes a confrontational problem and winds up in the hands of claims specialists and lawyers, and costs escalate at outrageous rates.

Through the MSPE program, up to two days of work by the standing neutral will be free. After that, individual arrangements will be made with the standing neutral.

MSPE is promoting the use of standing neutrals through a number of Michigan design and construction associations such as CAM, American Institute of Architects-Michigan Associated General Contractors-Detroit, Michigan Construction Users Council and others. MSPE also hopes to get a provision for utilizing standing neutrals into specifications and contracts.

MSPE's proposed contract language to utilize a standing neutral as an early step in dispute resolution reads as follows:

SUGGESTED CONTRACT LANGUAGE FOR INCLUDING "STANDING NEUTRAL" CONCEPT IN CONSTRUCTION SPECIFICATIONS

"In an effort to resolve any conflicts that may arise during design or construction of the project, and as a condition precedent to the initiation of any action, litigation, or formal arbitration between the parties, the Owner, the Designer and the Contractor agree that all disputes between them arising out of or related to this Agreement shall be first submitted to non-binding mediation according to the procedures of the Michigan Society of Professional Engineers standing Neutral Program, unless the parties mutually agree otherwise.

The Owner, the Designer and the Contractor further agree to include a similar mediation provision in all agreements with independent consultants, contractors and subcontractors retained for the project and to require all such consultants, contractors and subcontractors to include similar mediation provisions in all of their subcontractors and subconsultants so retained."

"If you don't negotiate settlements to your disputes or changes directly most specs typically go right to courtroom with arbitration or litigation as the next irreversible step. Some of us in MSPE think that there should be another step in between before you call in the lawyers," Hausmann said.

Even if contract language doesn't specify the use of a standing neutral, Hausmann explained, one could still be used if all parties consented. And utilizing a standing neutral to resolve disputes is not binding on the parties but advisory, noted Hausmann. If necessary, further legal action could still be taken, but probable with higher cost ramifications.

"We are committed to helping the industry solve its own problems," added Hausmann. Our inaction as an industry in solving disputes has spawned an industry of construction lawyers and construction claims prevention specialists". We need to again take charge of policing our industry ourselves.

For details regarding this MSPE service or more on becoming a "standing neutral", please contact Ralph Stephenson, PE, at (517) 772-2537 or Ronald L. Hausmann, PE, at (313) 963-8000.

MSPE - STANDING NEUTRAL PROCEDURE

MARCH 7, 1994

HOW TO SECURE THE ASSISTANCE OF AN MSPE STANDING NEUTRAL TO HELP YOU ON YOUR JOB:

- 1) Call Jim Kolb, Executive Director of MSPE at (517) 487-9388
- 2) Caller to furnish basic information to the MSPE Offices for review by Standing Neutral Steering Committee.
- 3) All parties involved will jointly prepare a written brief of the problem for review by MSPE Committee.
- 4) MSPE Standing Neutral Steering Committee will recommend to the parties three names of Standing Neutrals qualified to address the problem who are available.
- 5) The parties involved jointly agree and select one Standing Neutral from the three available.
- 6) The parties sign MSPE's "Indemnity Agreement" protecting MSPE and the Standing Neutral from any negative reactions.
- 7) The MSPE Standing Neutral arranges for time and place for resolution meeting between parties.
- 8) The MSPE Standing Neutral chairs the resolution meeting and renders an opinion within 15 days if not resolved at the meeting.

RONALD L. HAUSMANN, P.E.
PRESIDENT, WALBRIDGE ALDINGER CO.

**SUGGESTED CONTRACT LANGUAGE FOR INCLUDING
"STANDING NEUTRAL" CONCEPT IN SPECIFICATIONS**

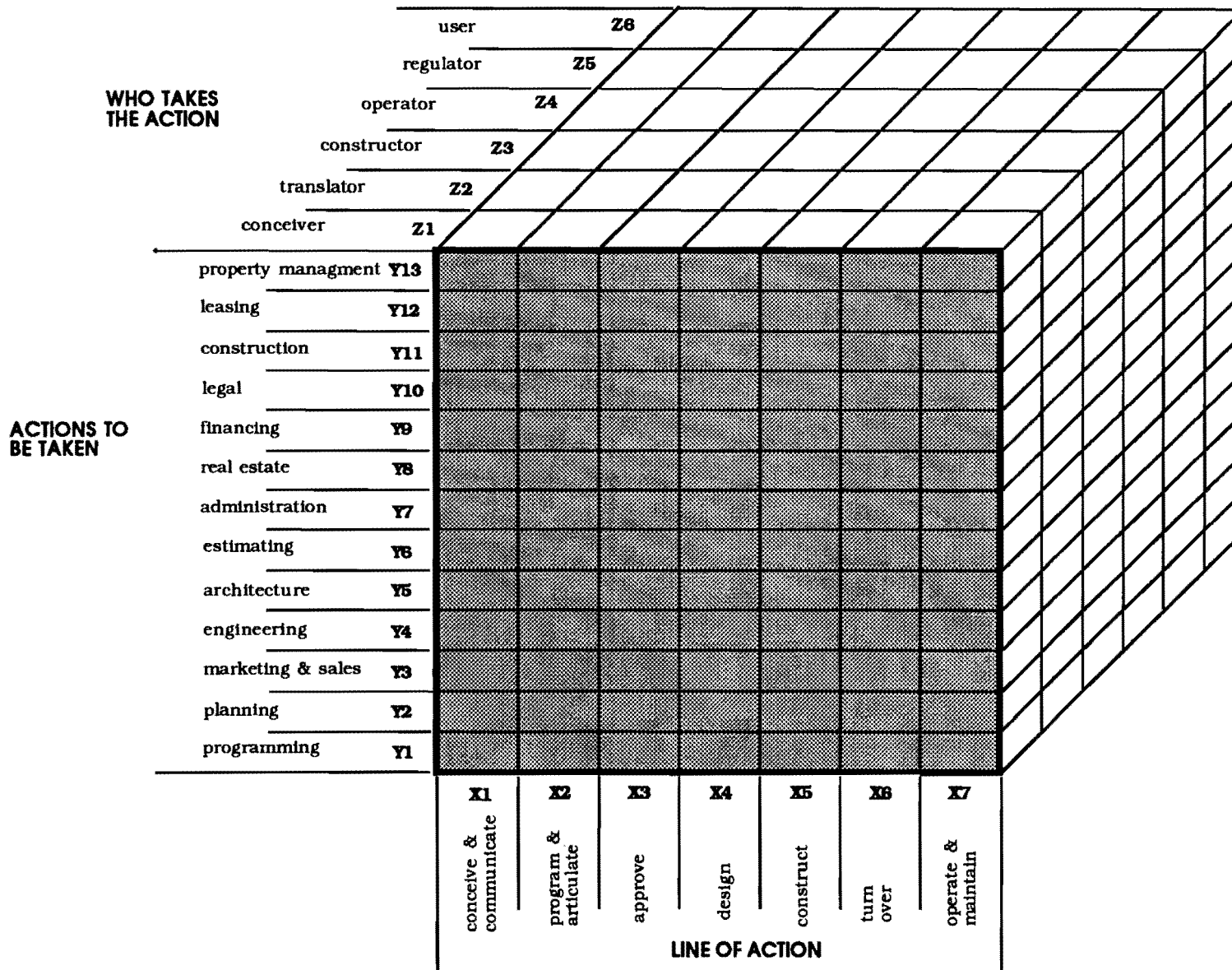
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The Owner, The Contractor, and the Designer further agree to include a similar mediation provision in all agreements with independent consultants, contracts, and subcontractors retained for the project, and to require all such consultants, contractors, and subcontractors to include similar mediation provisions in all of their subcontracts and subconsultants so retained.

• *Section #3 - The Ingredients of A Successful Partnering System*

- 3.01 Macro matrix boundaries of the construction industry
- 3.02 to 3.05 An overview of partnering
- 3.06 Traditional organization structure
- 3.07 Unstructured organization graphics
- 3.08 Organization by department
- 3.09 Organization by individual
- 3.10 to 3.12 Act from a plan
- 3.13 Job planning - what is it?
- 3.14 Money flow (1)
- 3.15 Project costs committed and spent
- 3.16 rjs partnering definition

MACRO MATRIX BOUNDARIES OF DESIGN AND CONSTRUCTION



An Overview of Partnering

I. Definitions

A. *Critical Transition Point*

The point in a project delivery system at which the responsibility and authority for the work passes from the supportive group to the ex'e'cutive group.

B. *External project challenges*

Challenges to the functional or project integrity by those outside the parent organization that seek change or disruption.

C. *Functional component*

A group designed or adapted to perform some specialized activity or duties, usually concerned with the continuous operation of the company.

D. *Internal functional or project challenges*

Challenges to the functional or project integrity by those within the parent organization that seek change or disruption.

E. *Partnering*

A method of conducting business in the planning, design, and construction profession without the need for unnecessary, excessive and/or debilitating external party involvement.

F. *Partnering charter*

The basic manual for operating a partnering system. Contains at a minimum, the mission of the project team, and their objectives for the project. Usually is signed by those writing the document.

The charter is an agreement in principle and must not supersede or supplant the design and construction contracts in place or to be written.

G. *Project component.*

Project - as related to management

A group established to achieve a set of objectives by accomplishing a set of related, discrete operations which have a defined beginning & end.

H. *Relations - Formal Functional*

Organizational connections that concern distribution and use of data, information and decisions that flow along formally defined transmission lines. Formal functional communications are usually written and are normally both from and to individuals and groups.

Formal relations are precisely defined and most day to day business is accomplished within the formal relation framework. The line expressing a formal functional relation usually has an arrowhead at each end to show a mutual exchange of responsibility and authority. If there is a higher authority to be implied a single arrowhead can be used pointing to the superior party.

I. *Relations - Informal*

The natural channels along which organizationally related material is most easily and comfortably transmitted. The informal relation exists by mutual consent of the parties to the relation, and is stimulated to maximum effectiveness by a mutual profit gained from the relation.

Little, if any, authority normally is expressed in informal relations. Communications are usually oral and one to one. Often informal relations define the hidden organization structure. A line defining an informal relation is usually shown dotted with an arrowhead at each end.

J. Relations - Reporting

The official channels through which each individual conveys, or is given raises, appraisals and evaluations; is fired, assigned or is provided professional, vocational and personal identity in the organization. The true organizational superior of an employee is usually that individual with whom he maintains a reporting relation. The line expressing reporting relations has an arrowhead at one end pointing to the superior.

K. Relations - Staff

The business patterns through which a person or group provides consulting services necessary to achieve goals and objectives. Staff personnel usually have little or no authority over those outside the staff group. The line expressing staff relations has an arrowhead at each end.

L. Relations - Temporary

Those relations created when extraordinary or unusual management demands must be met. The temporary relation is usually unstable and should be kept active for only short periods of time. The line expressing a temporary relation can have an arrowhead at one or both ends depending on the nature of the relations.

Extensive use of temporary relations creates business dysfunctions, breaks down morale and causes internal tensions.

M. Stakeholder

An at-risk member of the charter writing team who has signed the charter.

II. Project contract components

- A. Agreement premises
- B. Authority limits
- C. Payment methods
- D. Scope of services

III. Project organization components

- A. Relationships
 - 1. Formal
 - 2. Informal
 - 3. Reporting
 - 4. Staff
 - 5. Temporary
- B. Functional components
- C. Project components
- D. Authority
- E. Responsibility
- F. Internal project challenges
- G. External project challenges

IV. Partnering is a system of conducting business with minimal destructive conflict. Other names for partnering are:

- A. A handshake agreement.
- B. A gentleman's agreement.
- C. "Let's look at the drawings a bit more closely."
- D. "Let's tally up the favor score?"
- E. "Let's settle this over a beer."

V. Why is partnering applicable in today's construction industry?

- A. What value is added by partnering?

1. Lower costs to resolve conflicts.
 2. Quicker settlement of conflicts.
 3. Knowledgeable professionals make the resolution decisions.
 4. Decision makers are closer to the resolution process.
 5. Nature of decisions rendered lessen the probability of appeal.
 6. Participants gain privacy in the resolution process.
 7. Probability of fair resolution is increased by timely consideration of the dispute.
 8. Helps cross critical transition points by setting the ground rules for the crossing.
- B. Where and why has partnering been successful?
1. Comments on partnering from the Albuquerque District Corps of Engineers staff in a guide to partnering dated February, 1991.

"Our experience is positive based on six contracts with four of them substantially complete." Benefits include:

- a) Disputes reduced - no formal claims.
 - b) Common objectives achieved (schedule, safety, etc.).
 - c) Increased responsiveness.
 - d) Higher trust levels.
 - e) Improved communication.
 - f) Excellent cooperation & teamwork.
 - g) Increased value engineering proposals.
 - h) Developed expedited process for tracking and resolving open items.
2. Comments on partnering by Colonel Charles E. Cowen - Commander Portland District Corps of Engineers in a strategy for partnering in the public sector - April 15, 1991.
 - a) 80 to 100 % reduction in cost growth over the life of major contracts.
 - b) Time growth in schedules virtually eliminated.
 - c) Paper work reduced by 66%.
 - d) All project engineering goals met or exceeded.
 - e) Completion with no outstanding claims or litigation.
 - f) Safety records significantly improved.
 - g) Pleasure put back in the process for all participants.
3. Combination partnering relationships surveyed & studied by the Construction Industry Institute and reported in the publication ("In Search of Partnering Excellence" - July 1991).
 - a) Shell Oil/SIP Engineering - 1984.
 - b) DuPont/Fluor Daniel - 1986.
 - c) Proctor & Gamble/Fluor Daniel - 1986.
 - d) Proctor & Gamble/BGP - 1986.
 - e) Shell Oil/Bechtel - 1987.
 - f) DuPont/MK - Ferguson - 1987.
 - g) Shell Oil/The Ralph M. Parsons Company - 1987.
 - h) Alcan/Fluor Daniel - 1988.
 - i) Union Carbide/Bechtel - 1988.
 - j) DuPont/Day & Zimmerman - 1988.
 - k) Great Northern Nekoosa/Rust International - 1988.
 - l) Pillsbury/Fluor Daniel - 1989.

- m) Hoffman-LaRoche/Day & Zimmerman - 1989.
- n) Chevron/Bechtel - 1989.
- o) Bethlehem Steel/United Engineers & Constructors - 1989.
- p) Proctor & Gamble/M. W. Kellogg - 1989.
- q) Chevron/Besteel - 1990.
- r) DuPont/H. B. Zachry.

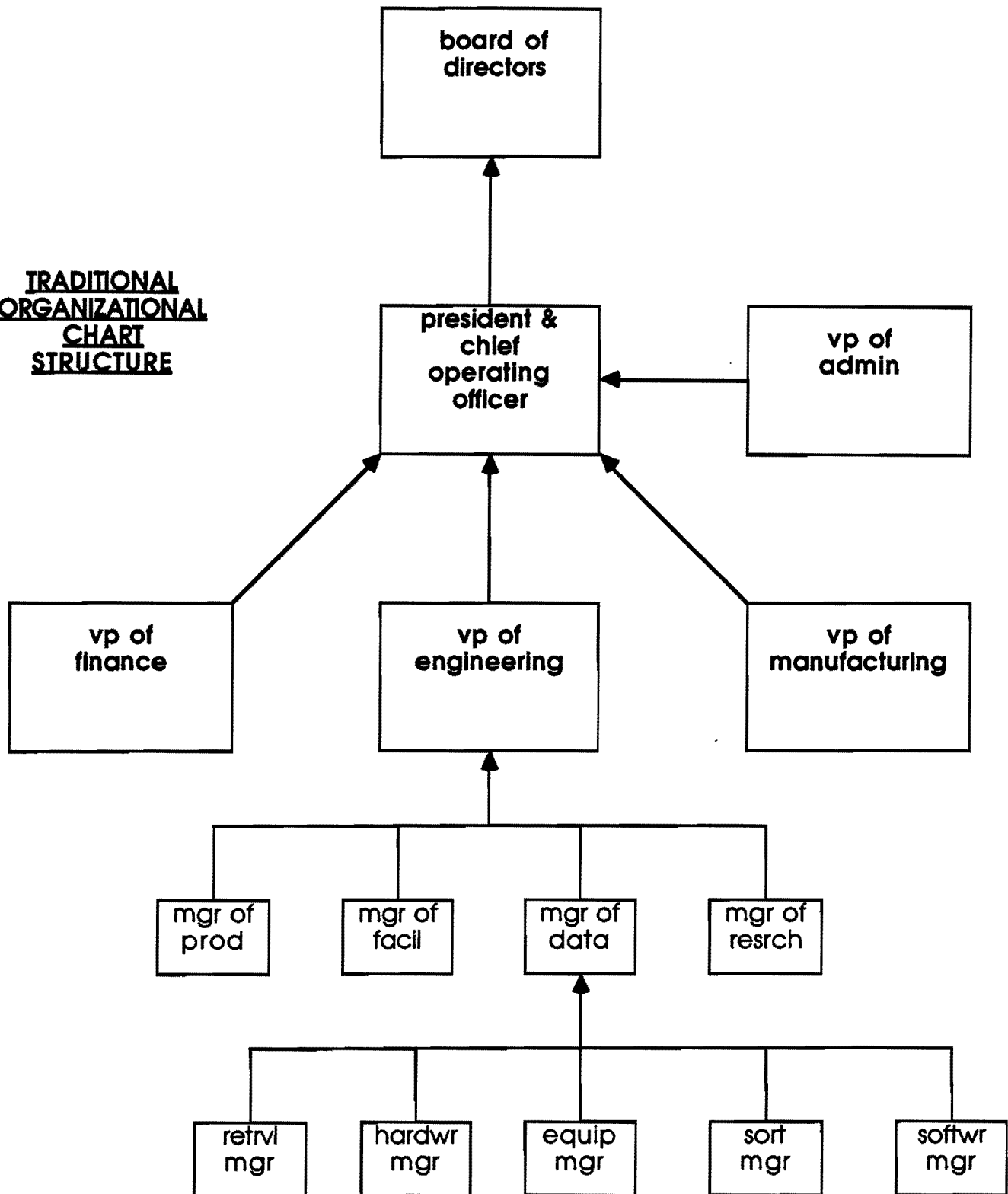
C. Situations in which partnering may be difficult to use.

- 1. Where the parties intend to pay lip service only to the partnering effort.
- 2. Where individuals in key technical or management positions choose to resist intelligent discussion and fair decision making.
- 3. Where early commitments by the owner have made good intercontract relationships difficult or impossible to maintain.
- 4. Where construction contracts are let as the documents are being released for field use.
- 5. Where several parties to the contract prefer to resolve disputes by contested claiming & binding resolution.
- 6. Where poor contract documents are made the basis of the partnering effort.
- 7. Where excessive, one sided conditions are placed on sub contractors by prime contractors.
- 8. Where unfair or obscure payment processing systems are specified and enforced.
- 9. Where risk has been poorly defined and unfairly allocated.

VI. What are some of the action ingredients of a successful partnering effort?

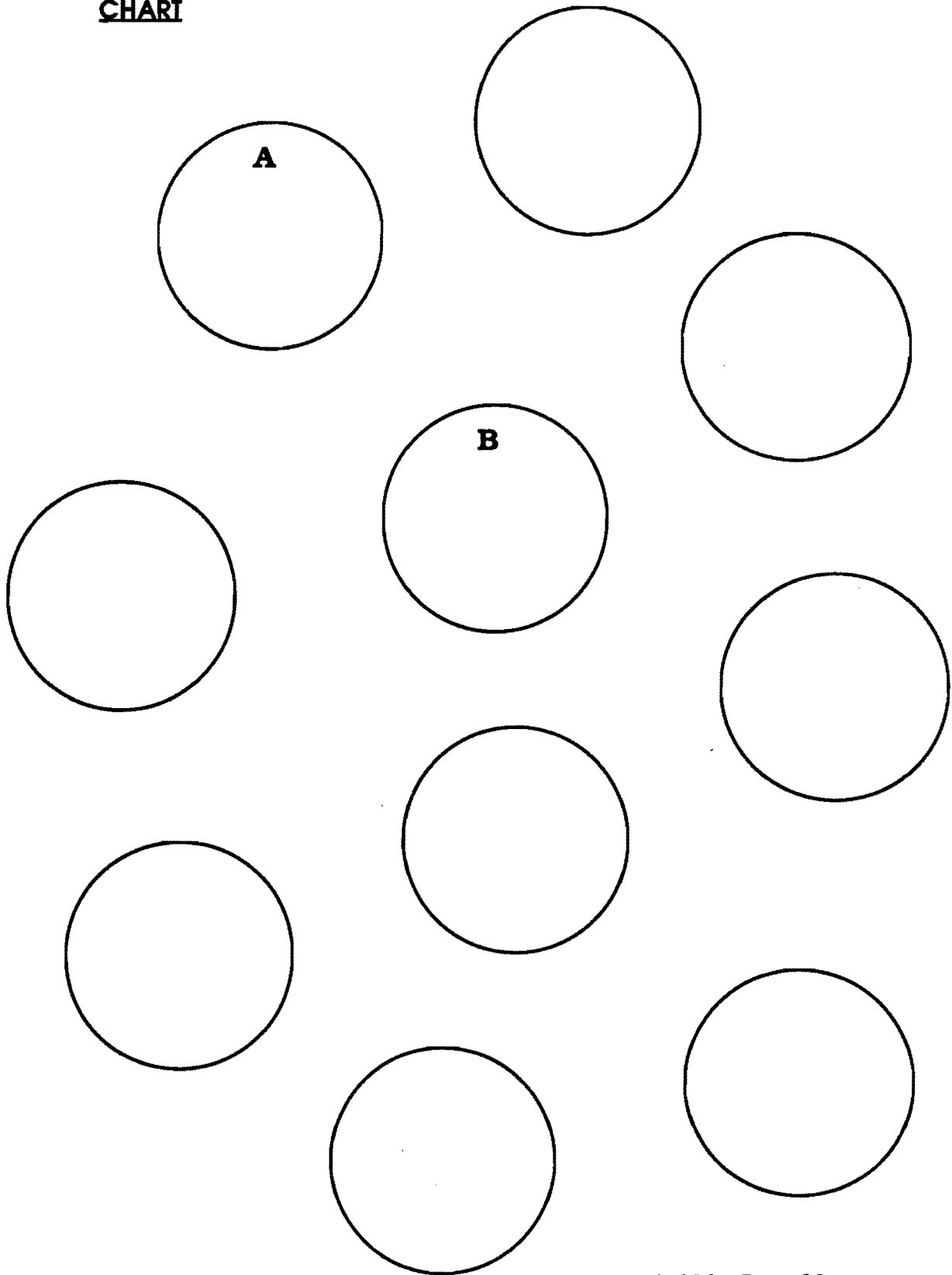
- A. Generate and maintain a strong desire to achieve project success for all.
- B. Make intelligent commitments.
- C. Avoid accepting or imposing unreasonable risk.
- D. Work and act ethically, morally, and with integrity.
- E. Work and act from a position of fairness rather than a position of power.
- F. Suppress greed.
- G. Try to establish an honest feeling of trust among participants.
- H. Gain support from the participants and stakeholders.
 - I. Assign experience, competent people to responsible management positions.
 - J. Have empathy.
- K. Prepare a good charter, a good partnership evaluation system, and a good issue resolution process.
- L. Allow time to make the partnering system work.
- M. Recognize and celebrate success.
- N. Gain the support and participation of higher management.
- O. Develop and use guidelines and evaluation systems for measuring performance quality.

**TRADITIONAL
ORGANIZATIONAL
CHART
STRUCTURE**

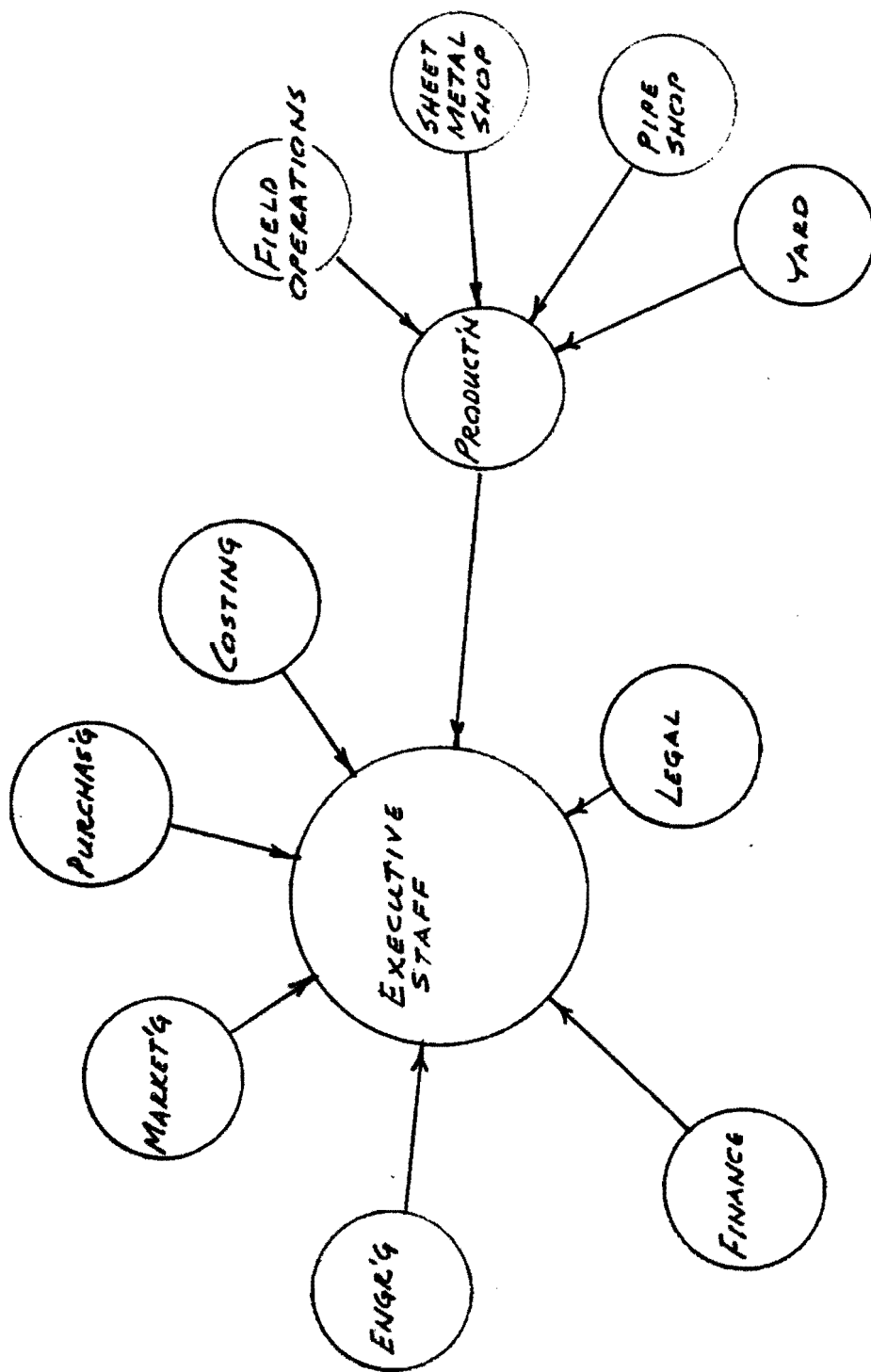


**GRAPHICALLY
UNSTRUCTURED
ORGANIZATIONAL
CHART**

**Ralph J. Stephenson PE PC
Consulting Engineer**

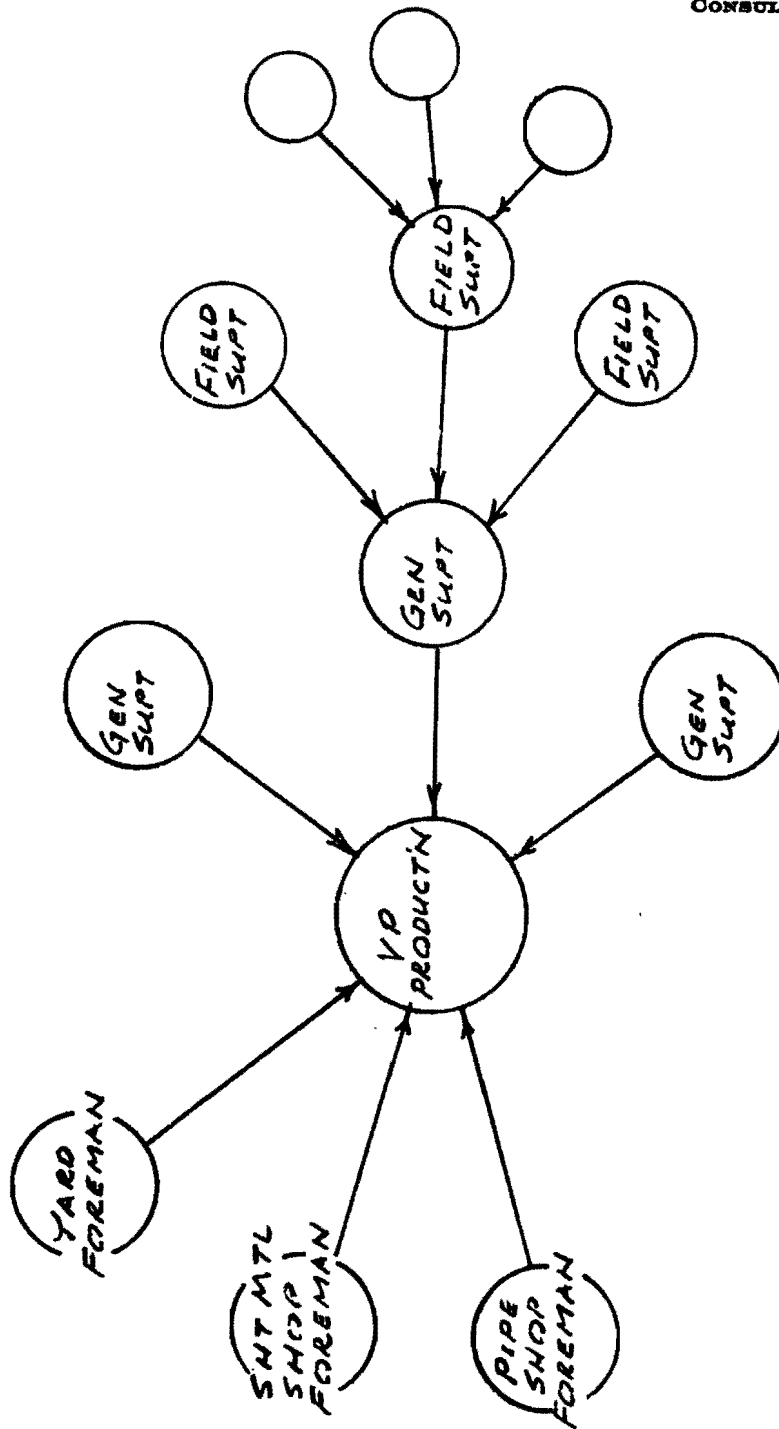


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EXAMPLE OF BASIC
FUNCTIONAL COMPANY
RELATIONS (DEPARTMENTAL)

3.08



RELATIONSHIPS

→ FORMAL
 - - - REPORTING
 - - - INFORMAL
 == STAFF

EXAMPLE OF BASIC FUNCTIONAL
DEPARTMENT RELATIONSHIPS (INDIVIDUAL)

Act From A Plan

- If you can't plan it, you can't manage it.
- Good plans shape good decisions.

- A. Five essential planning questions for the manager to ask and have answered.
1. What?
 2. Where?
 3. When?
 4. How?
 5. Who?
- B. Essential actions for the manager to take
1. Set goals, objectives, and a project delivery system.
 2. Prepare, approve and translate an action plan.
 3. Organize, assemble resources and set project systems.
 4. Do the job right the first time.
- C. Set goals, objectives and a project delivery system
1. Definitions
 - a. Goals - targets, desires, wishes and aims expressed without quantification.
 - b. Objectives - Expressed goals which have been quantified.
 2. Be specific when setting objectives - projects are objective oriented.
 3. Set objectives so that movement toward their achievement can be measured.
- D. Prepare, have approved and translate an action plan
1. May be mental, verbal, text written or graphic.
 2. May be strategic or tactical, summary or tactical.
 3. May be short, medium or long range (the manager must set the time scale).
 - a. The shorter the time interval covered by the plan, the greater is the chance the plan will succeed. However, the shorter the time interval covered, the greater is the probability that longer range needs, which truly measure the manager's effectiveness, will remain unmet.
 - b. The higher you are in the management structure, the larger and

longer are the planning scales you must use (the higher you are the further you are expected to see).

4. A good manager plans the work and then works the plan.

E. Organize, assemble the resources, set the project systems & do the job.

1. Build plans based on optimum integration of management viewpoints.
2. Define relationships through functional diagramming of interconnections.
 - a. Formal.
 - b. Informal.
 - c. Reporting.
 - d. Staff.
 - e. Temporary.
3. Make clear cut assignments.
 - a. The manager should not assume a person will automatically know his full pattern of responsibilities.
 - b. Don't leave definition of authority and responsibility to chance. Be specific.
4. Build a feedback system.
 - a. Organizational grapevines are often used for informal feedback.
 - b. Formal feedback systems should be built by specific assignment (must have a standard of project performance defined before a formal feedback system can be put in place).
5. Keep organization objective oriented.
 - a. Keep organization lean - avoid unnecessary staffing.
 - b. Provide delegation and training opportunities.
 - c. Tend to build around objectives and needs rather than people (there are major exceptions to this - distinguish these early).
 - d. Provide for proper grading of decision to action time spans.

F. Common planning failures.

1. Not touching all organizational and management bases - use the what, where, when, how and who system.
2. Committing to too many objectives at one time.
3. Underestimating the value and need for good forward planning.
4. Failing to challenge plans and actions at the right time.

5. Not providing proper escape hatches, mouseholes and safeguards.
6. Failure to encourage timely, knowledgeable staff participation.
7. Failure to obtain higher level approvals of goals and objectives.
8. Inadequate monitoring and control of costs, progress, documentation and resource allocation.
9. Poor assignment of duties, authority, responsibilities and actions.

and

10. Failure to understand that planning is a major responsibility of the manager.

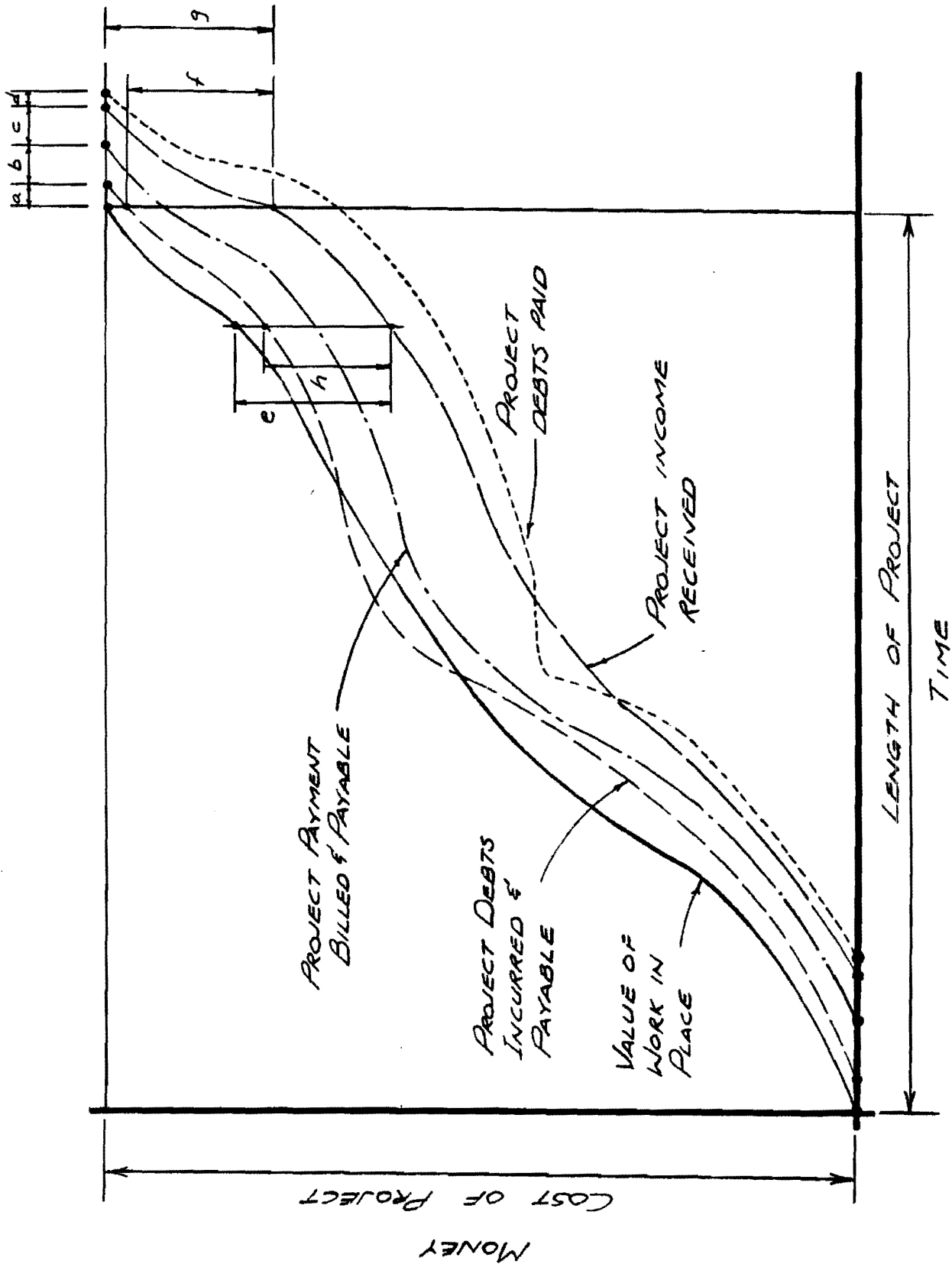
JOB PLANNING - WHAT IS IT ?

1. **PLANNING** is to formulate a sequence of actions leading to an end goal.

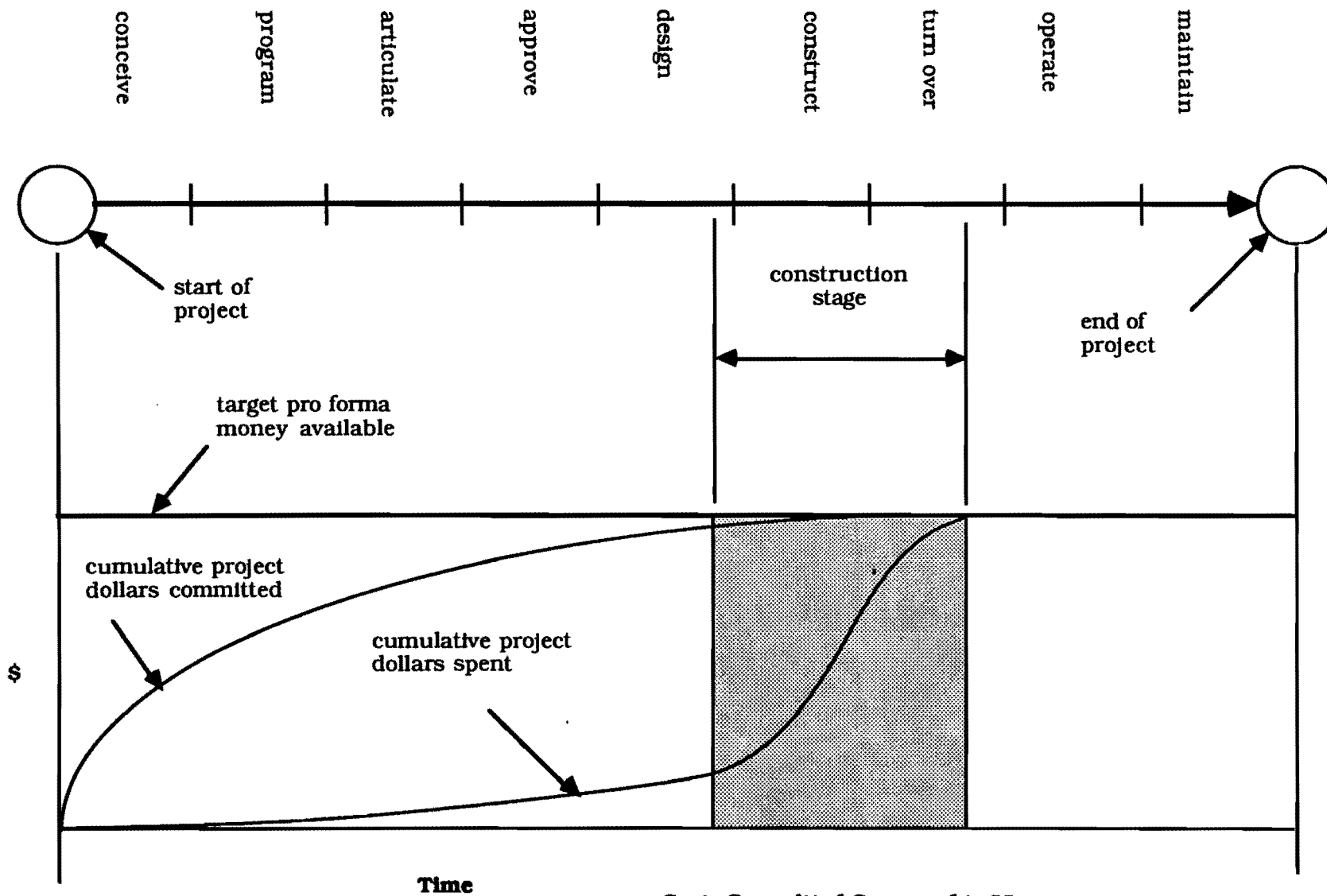
2. **NETWORK PLANNING** is to graphically depict this sequence of action.

3. **CRITICAL PATH PLANNING** is a technique of establishing resource limits on each plan component.

PLAN VISIBLY !



PROJECT MONEY FLOW



Costs Committed Compared to Money Spent on Construction Projects

Ralph J. Stephenson PE
Consulting Engineer

ho 350 Jan 90

PARTNERING

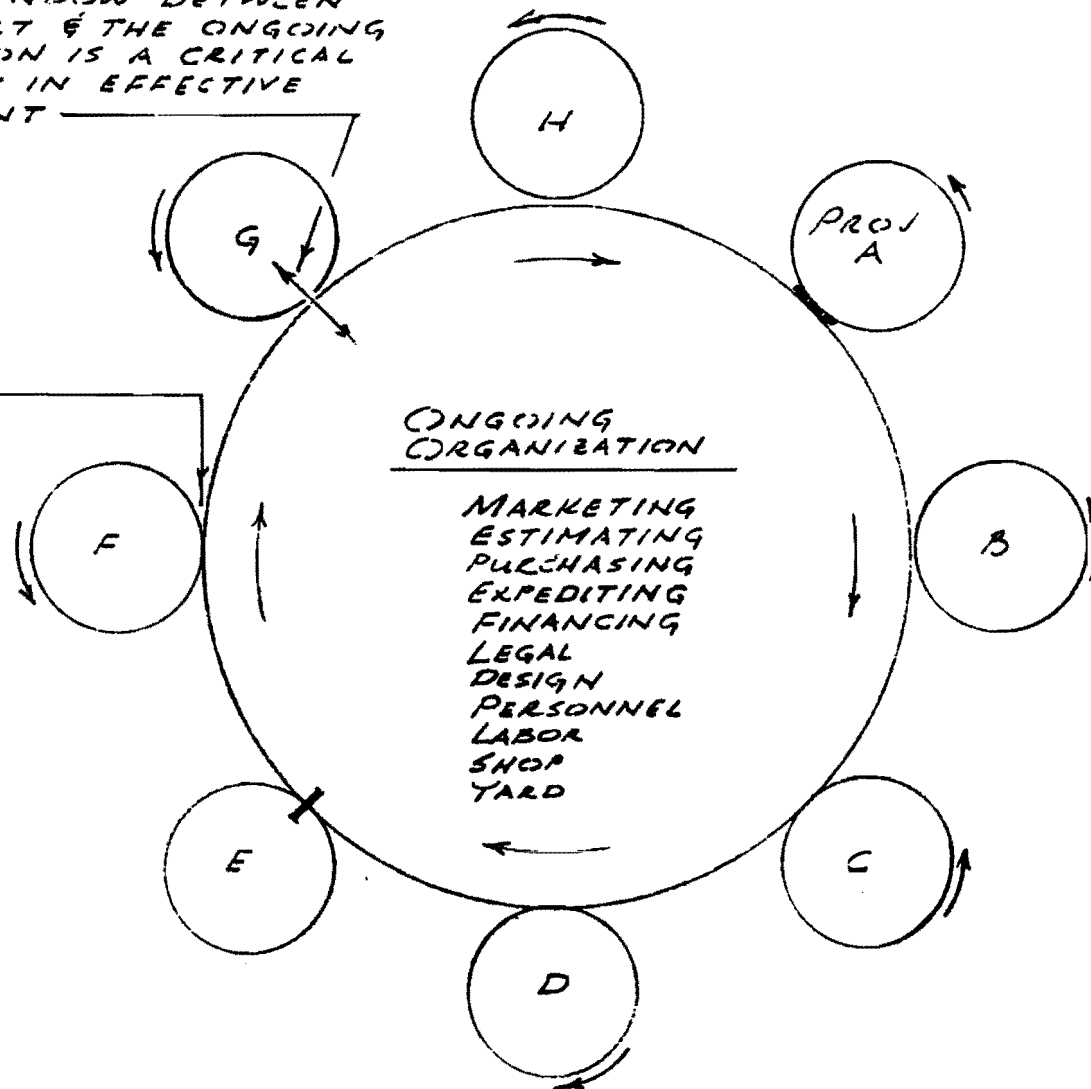
**A method of conducting
business in the planning, design,
and construction profession
without unnecessary, excessive,
or disruptive external party
involvement.**

• *Section #4 - The Structure of the Partnering System*

4.01	Relation of project management to ongoing management
4.02	Project/functional management matrix
4.03	Types of management in project oriented businesses
4.04	Relation between functional and project management in evolution
4.05	Professional service contract characteristics
4.06	Construction contract characteristics
4.07 to 4.09	Where do we go from here? U of Q case study
4.10	U of Q organization blanks
4.11 & 4.12	Claim prone job characteristics
4.13 to 4.16	Common causes of contested claims
4.17 to 4.20	Guidelines for the application and use of partnering concepts
4.21	Identify vital targets
4.22	Paretos law
4.23 to 4.25	Employ the power of training
4.26 to 4.30	Working well with people
4.31	4 i's improvement cycle
4.32 & 4.33	Partnering specification
4.34	Olanta Data Systems partnering participation matrix

A CLEAR WINDOW BETWEEN
THE PROJECT & THE ONGOING
ORGANIZATION IS A CRITICAL
INGREDIENT IN EFFECTIVE
MANAGEMENT

A SMOOTH
INTERFACING
SURFACE IS
ESSENTIAL TO
GOOD PROJECT
DIRECTION



THE RELATION OF PROJECT
MANAGEMENT TO
ONGOING MANAGEMENT

RAIPE J. STEPHENSON, P.E.
CONSULTING ENGINEER

4.01

Project Management

Project A
Project B
Project C
Project D
Project E
Project F

	A	B	C	D	E	F	Remarks
1. Data Processing							
2. Proposal Engineering							
3. Purchasing							
4. Engineering							
5. Sales & Marketing							
6. Manufacturing							
7. Service							

Functional Management

PROJECT / FUNCTIONAL MANAGEMENT MATRIX

TYPES OF MANAGEMENT IN PROJECT ORIENTED BUSINESSES

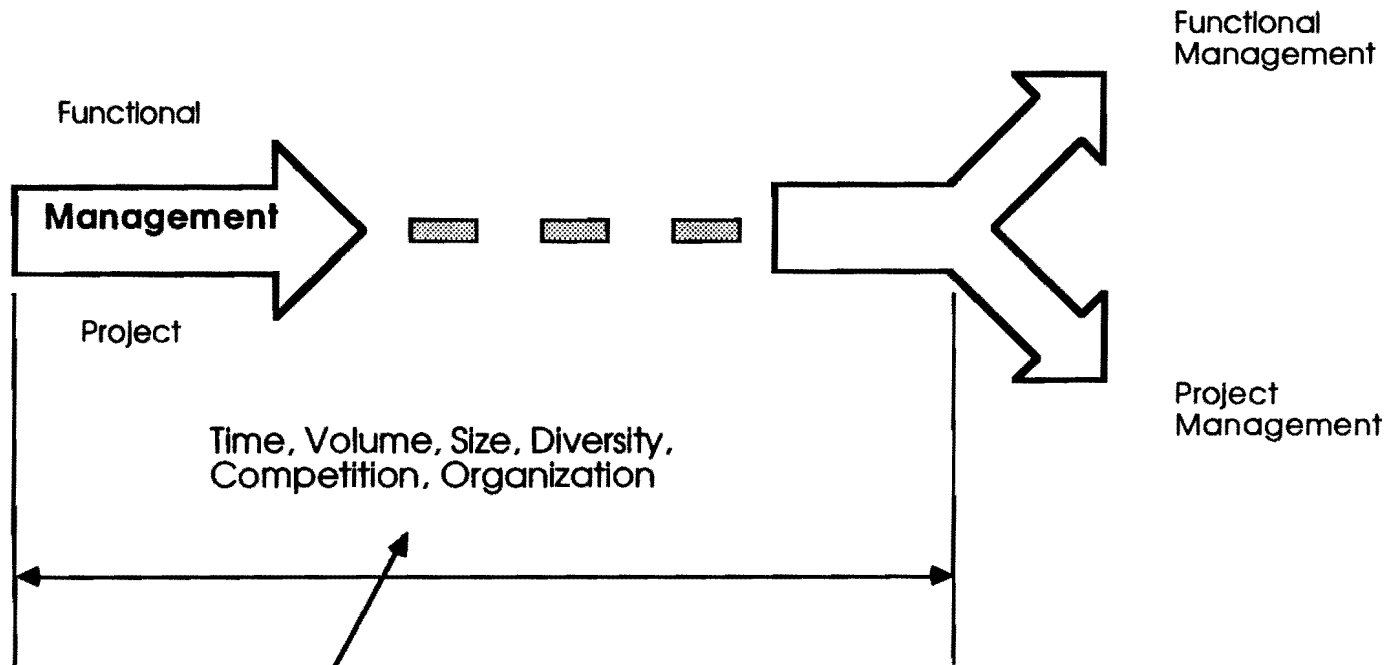
• FUNCTIONAL - as related to continuous management

A business operation designed or adapted to perform a specialized activity or duty usually exerting a direct influence on the continuous operations of the company.

Examples are departments of estimating, accounting, legal, office administration and similar ongoing functions.

• PROJECT - as related to discrete management

A specific management assignment designed to achieve defined objectives by accomplishing a group of related, discrete project operations. Project operations have well defined beginning and ending points.



- These are some of the factors that initiate changes in the method by which a planning, design, construction organization is managed .

Relation between functional and project management in the evolving organization

Ralph J. Stephenson PE
Consulting Engineer

2. Professional Service Contract Characteristics

**Ralph J. Stephenson PE
Consulting Engineer**

A. Agreement premises

- - 1. Totally negotiated - broad multivalue competition
 - 2. Partially qualified - moderate multivalue competition
 - 3. Totally qualified - narrow multivalue value competition

B. Authority limits

- - 1. As agent
 - 2. As limited agent
 - 3. As contractor

C. Payment methods

- - 1. Fixed total including payroll + overhead + profit + (expenses)
 - a. Expenses included
 - b. Expenses separate
 - 2. (Payroll costs) x multiplier + fixed fee + expenses
 - a. Limit on
 - 1.) Payroll hours
 - 2.) Expenses
 - b. No limit on
 - 1.) Payroll hours
 - 2.) Expenses
 - 3. (Payroll costs) x multiplier for payroll costs & overhead
 - a. Expenses included
 - b. Expenses separate
 - 4. % of total construction cost
 - a. Expenses included
 - b. Expenses separate

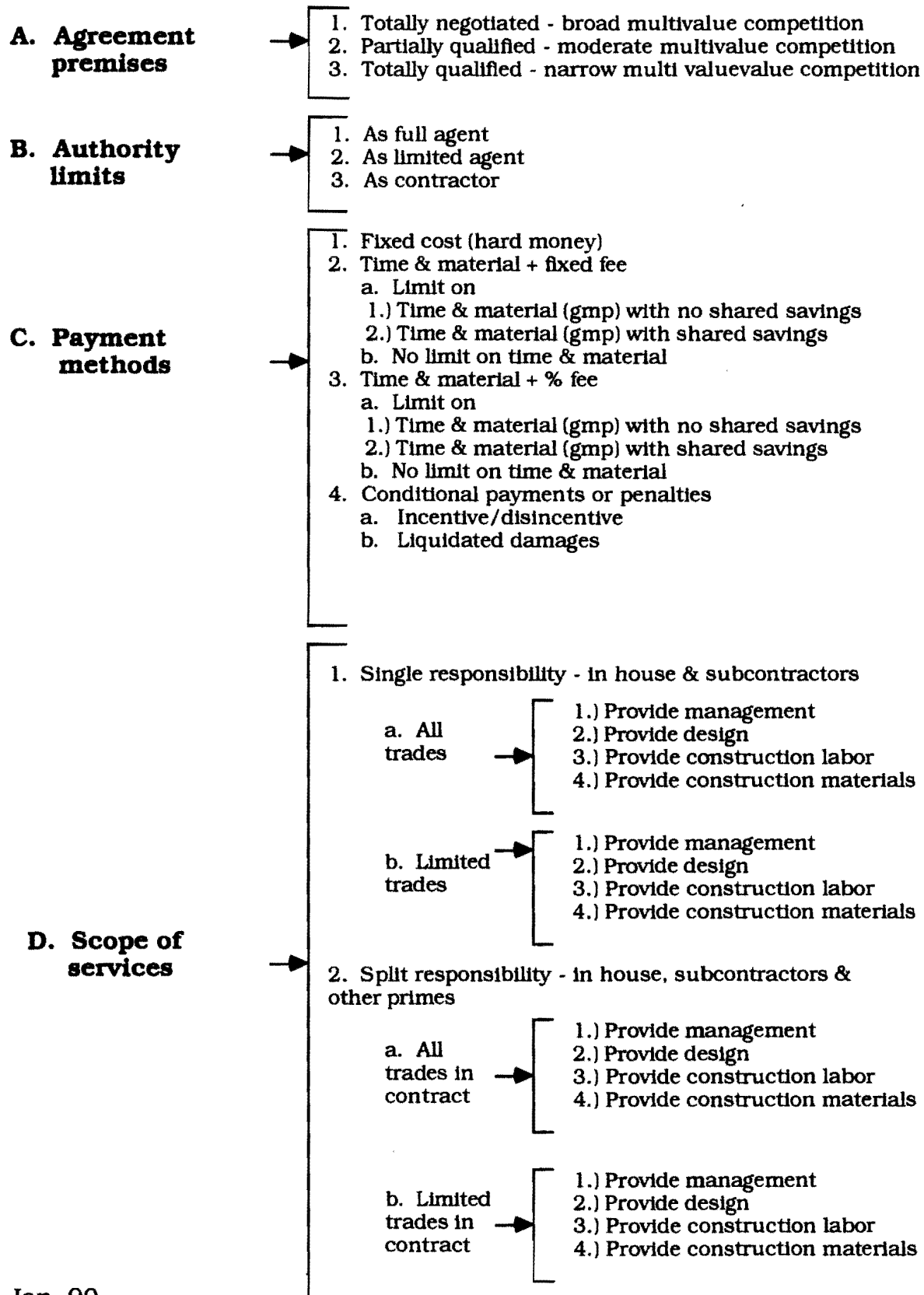
D. Scope of services

- - 1. Single responsibility
 - a. All in house
 - b. In house & outside consultants
 - 2. Split responsibility
 - a. In house, client & other prime consultants
 - b. In house & other prime consultants
 - c. In house & client

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3. Construction Contract Characteristics

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WHERE DO WE GO FROM HERE?

Qitain University, a small private engineering, science, liberal arts school in the northwest United States city of Qitain, is about to embark on a major (for them) expansion plan. It involves the planning, design, and construction of a new university activities building, a modest athletic facility having a gym and indoor pool, along with support facilities, and a small combined library and book store.

The expansion program has been written, the desired planners, architect, and engineers have been selected, and the Board of Regents of the school has given the project a go ahead.

An organizational meeting is in progress with the following people in attendance:

- Frank Carlton - Vice President for University Planning and Operations
- James Tea - Program consultant for the university
- Fred Link - President of the planning/architectural firm of Link and Associates, the possible architects of record for the entire project
- Charles Redrock - Associate, chief architect, and project manager on the project for Link and Associates
- Robert Hagel - President of Hagel Mechanical Engineering Company, the possible mechanical engineers for the project
- Stan Weissman - President of Weissman Electric, the possible electrical engineers for the project
- Richard Goldmark - A wealthy alumnus and key mover in assembling the total funding for the program

The site of the new building group extends across two city public rights of way (ROW), Francis Avenue and Fourth Avenue. Preliminary negotiations have been conducted with the City of Qitain by Mr. Carlton, of the University, and with the city manager, George Dell. It appears that vacation of the ROWs can be accomplished on a reasonable basis. Several live utilities are known to be in the two streets but exact sizes and locations have not yet been determined.

The discussion has generated several questions now being addressed. Some of these include:

1. The only available survey map of the area is an in-house student survey prepared ten years ago as a semester project. A new survey has not been budgeted and might be challenged as an excessive cost by the Board of Regents.

Should a new survey be made?

Why?

What should a new survey contain?

2. Should the University retain a construction manager?

If not, why?

If yes, why?

3. How should the project be organized and what should be the role of the various parties involved?

4. Who should be the ULTIMATE DECISION MAKER (udm) on the project?

5. Should the University appoint a staff representative to the project?

If so, what should be his title, authority, responsibilities and his activities?

6. The contract for architectural, mechanical, and electrical design services are not yet awarded, but all agree that the three firms at the meeting are the ones to do the job. With whom should the architectural, mechanical and electrical engineering contracts be executed?

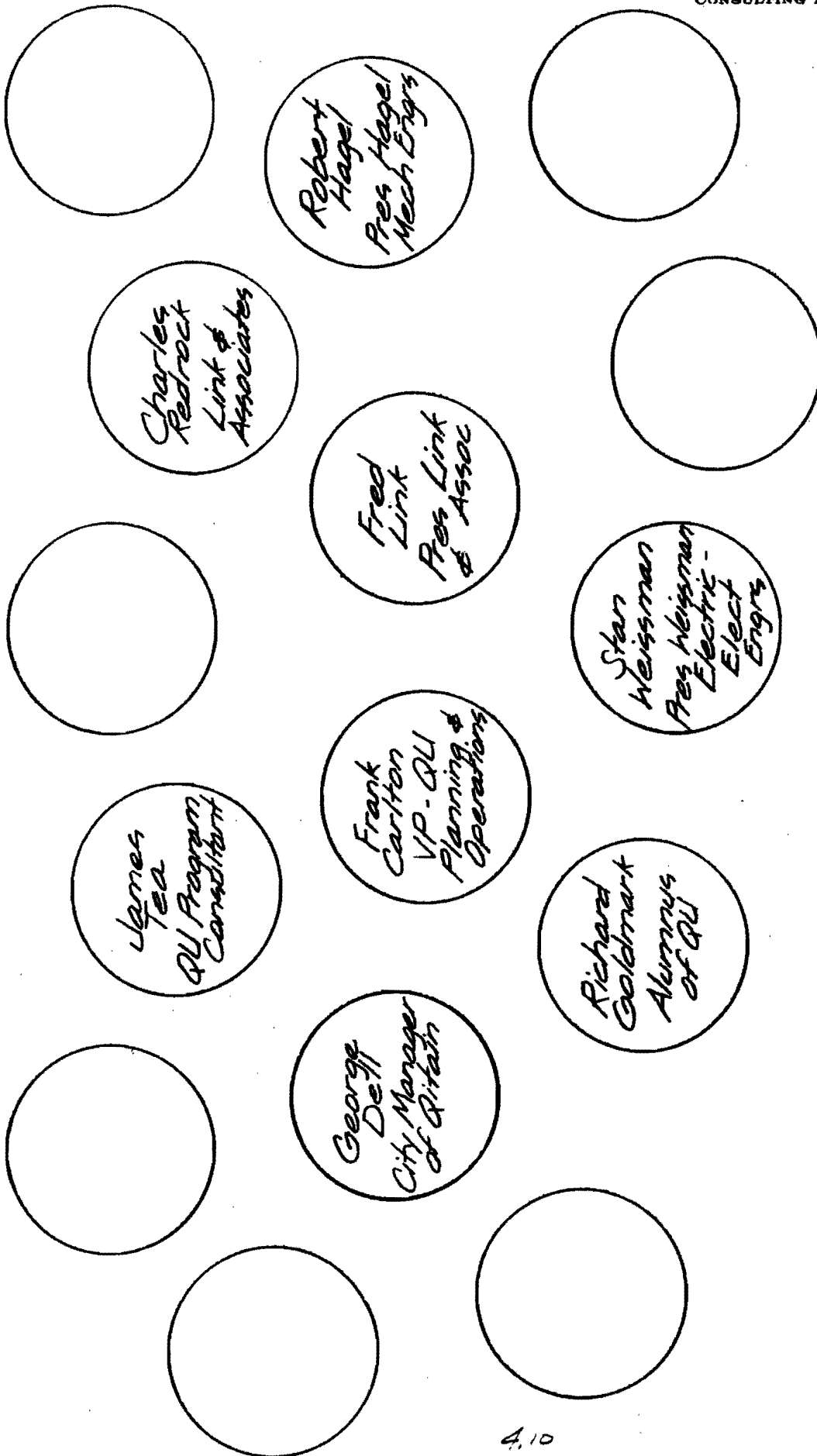
7. How do answers to the above question affect the claim potential for the project?

8. If you were an alumnus, and a local general contractor serving on the Board of Regents of the University, and acting as an ex officio advisor to the program group, how would you have answered questions 1 through 7 so as to maximize the potential for

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claim avoidance (cav)?

9. What role would you recommend Mr. Goldmark be requested to play in the project?



QITAIN UNIVERSITY - PROJECT
ORGANIZATION STRUCTURE

Claim Prone Job Characteristics

During the profiling, proposing and negotiating period, it is often possible to gain a good insight into the expected nature of a job if one is fortunate (or unfortunate) enough to be the successful proposer. The problem job is becoming increasingly serious in our business and professional lives and it should be identified early. The problem job generally results in increased costs during the construction period and quite often requires arbitration or litigation to achieve resolution of costs and damages.

Thus, it is good policy for the perceptive owner, architect/engineer and contractor to become familiar with those characteristics that early identify a job as having potential for being a trouble project.

This list of characteristics is by no means complete, nor is it meant to imply that a job having these features will necessarily be claim prone. It is, on the other hand, an honest effort to state certain unique job features that have been identified in projects that have ended up in litigation or arbitration. The list is at random with no attempt to classify or characterize the features.

Claim prone job characteristics may include:

- a. A wide spread in proposal prices.
- b. Issuance of a large number of pre-bid addenda and instructions.
- c. For subcontractors, a poor general contractor reputation if the project is being built by one prime.
- d. For projects with separate primes, poor other prime contractor reputations.
- e. More than four to six prime contractors involved (applicable on normal building work only).
- f. Poor reputation of architect/engineer preparing contract documents.
- g. Excessive how-to-do-it emphasis in contract drawings and specifications.

Claim Prone Job Characteristics
(continued)

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- h. Non-labile party involvement in responsible positions,
i.e. non-labile construction manager.
- i. Large numbers of allowance items.
- j. Zero (or excessively small) tolerance specifications.
- k. Poorly defined authority and responsibility patterns in the
offices of the architect/engineer, the owner, the general
contractor or other prime contractors.
- l. Inexperienced specialty contractors.
- m. Excessive number of pre-selected suppliers for key material
and equipment.
- n. Large dollar amount or numbers of owner purchased equipment.
- o. Location in strike prone areas.
- p. Location in jurisdictionally sensitive areas.
- q. Heavy use specified for untried products and equipment.
- r. Non-labile party involvement in establishing delivery commit-
ments, i.e. construction manager, architect/engineer, owner
representative.
- s. Involvement of politically accountable owners, architect/
engineers or other contractors.
- t. Multi responsibility payment structures.
- u. Excessively long time periods to award contracts after a
proposal.

(Note: This often occurs in public work where many
non-project approvals and agencies are involved.)
- v. Poor owner reputation.

COMMON CAUSES OF CONTESTED CLAIMS

Contested construction claims have increased over the past few years and now must be recognized as a serious road block to proper and profitable construction procedures.

The reasons for the increase in contested claims are many and must be understood in the sense that our society has become somewhat legalistic. That is to say, the recourse to legal resolution, as opposed to interpersonal, technical, or administrative resolution of problems has become a common fortunately shows some signs of diminishing as costs and time involvement in legal matters have increased astronomically.

However, there are claims, there always have been claims, and there will probably always will be contested claims. Those in construction should however, thoroughly understand the structure of the contested claim.

Specifically, contested claims lead to resolution by an administrative settlement, litigation, arbitration, or mediation. There are some common causes of conflict and it is these that stimulate the parties to go to a formal settlement by outsiders. It is important for those in construction to understand how to avoid the mistakes that cause wasteful contested claims.

Several years ago a firm specializing in construction claims and their settlements studied some of the most common causes of disputes. Of two hundred occurrence of contested claims the following percentages were found.

1. Directed Change - 48%

A legitimate change within the contract scope for which the owner must pay.

Examples

- Owner changes the door color after the door is painted.
- Owner revises size of electrical room door opening

Advice

- Required extensions of time should be stated in writing.
- Costs for extended general conditions should be agreed upon early.
- The client or owner is obligated to pay for the change, if there is a charge.
- Payment for the work should be explicitly agreed upon before starting.

2. Constructive change - 42%

An owner's action or inaction that has the same effect as a written order.

Examples

- Shop drawing corrections, showing additional work not covered in contract documents.
- Owner's representative tells a superintendent to relocate a wall with no payment intended.

Advice

- Don't assume changes will be free. Find out if there is a cost.
- Don't enrich contract documents.
- Don't enrich shop drawings.

- Make certain the scope and costs of additional work is clearly understood.

3. Defective or deficient contract documents - 41%

Contract documents which do not adequately portray the true contract scope.

Examples

- A retaining wall shown dotted on the contract documents and expected by the architect/engineer and the owner to be built as part of the contract.
- Dimensional errors that cannot be resolved by verbal clarification.
- Contract documents that expect performance by default. For instance, specifying a miscellaneous iron ladder but not showing it on the drawings.

Advice

- Expect to pay your architect and engineer for good quality assurance in the production of contract documents.
- Select your design team on the basis of performance not cost.
- Clearly define design and construction delivery methods to be used.
- Don't expect your contractor to design the job unless it is a design/build project.
- Don't make unrecorded corrections to contract documents.

4. Delays - 41%

A delay situation beyond the control and not the fault of the contractor.

Examples

- Rock encountered that delays the job but was not shown on the contract documents.

Advice

- Be as thorough as possible in defining physical conditions of the site upon which the facility is to be constructed.
- Specify weather standards when it is necessary to clarify time extensions that might be caused by inclement weather.
- Determine delay costs quickly and eliminate them as soon as possible.
- Don't stop field work without proper authority and a very good reason.

5. Constructive acceleration - 35%

More work with no time extensions, or the same work and a shorter time period in which to do it.

Examples

- Owner refuses to grant time extension for work that will take longer to perform.
- Owner makes unauthorized use of critical path time without extension.
- Owner makes use of float time with the expectation that the contractor will not request or require a time extension.

Advice

- Never assume the contractor will do extra work within the contract time.

- Work out an early agreement on the use of float time in the network model.
- Never assume a field order is a no cost, no time extension change.

6. Maladministration - 35%

Owner interference with the contractor's right to enjoy least cost performance.

Examples

- Owner directs contractor to provide a certain space in a facility early without such early turn over having been specified in contract documents.
- Owner directs contractor to start work on an encumbered site.
- Architect/engineer unresponsive to legitimate requests for information.

Advice

- Always allow the contractor to select construction methods and means.
- Make certain the site is fully available to the contractor before the job begins.
- Process submittals promptly.
- Clearly define the time frame and the sequence by which submittals are to be processed, and do it early in the job.

7. Differing site conditions - 31%

The actual site differs from that represented on the contract documents, or deviates from ordinary or normal expectations of such a site in that area.

Examples

- Artesian water encountered in sand seam outside of where soil borings were taken.
- Existing basements encountered but not indicated on contract documents.
- Restrictive easements or assessments on the property not made known to the contractor before contract execution.

Advice

- Expect to pay for and get a good site survey
- Make certain soil borings are adequate to show any unusual conditions.
- Locate and define all easements.
- Check the site history for unusual or restricted conditions.
- Take photos of any unusual conditions encountered.

8. Impossibility of performance - 18%

A situation where it is impossible to carry out the contract work.

Examples

- Expecting a contractor to work on an encumbered site.
- Owner refuses to move interfering utilities he is supposed to relocate by contract.
- Specifying installation of above ceiling work that won't fit in the space provided.

Advice

- Expect the design team to check their work thoroughly for interferences.
- Accept your legitimate design and administrative duties and responsibilities and take care of them.
- Resolve dimensional difference early.
- Do your homework to presolve expected problems and interferences.

9. Superior knowledge - 18%

Withholding data or information during the pre contract period, that affects construction on matters of importance.

Examples

- On a steel erection contract not telling the bidders that the steel had been refabricated from a previous job.
- Failing to tell bidders that there is a cost cap on the first two months costs
- Not telling bidders that there is a high pressure gas line through the site that must be accommodated during construction.

Advice

- Be certain all bidders know as much as they must know to propose properly.
- Be certain demolition contract documents specify all work to be done.
- Locate, to the best of your ability, all site obstructions before bidding.
- Don't expect the contractor or the architect and engineer to read your mind.

10. Termination - 7%

Dismissal from the project for convenience or default.

Examples

- The section of the project is no longer needed and is removed from the contract.
- The contractor is behind schedule.
- The contractor's performance is unsatisfactory.
- The owner doesn't like the way the superintendent talks back to him.
- The contractor doesn't manage submittals promptly and accurately.

Advice

- Be certain the cause for dismissal is legitimate and well defined.
- Don't dismiss for minor reasons. Dismissal is serious business.
- If dismissing, be certain proper notice is given.
- Insure the contract documents give you the right to dismiss.

Guidelines for the Application and Use of Partnering Concepts

I. Definitions

A. *Ethics*

The study of the general nature of morals and of the specific moral choices to be made by the individual in his relation with others.

B. *Goals*

The unquantified desires of an organization or individual expressed without time or other resources assigned.

C. *Leadership*

The process of persuasion or example by which an individual induces a group to pursue objectives held by the leader or shared by the leader and his or her followers.

D. *Mission*

A statement of the most important result to be achieved by the project being successfully completed.

E. *Moral*

Of or concerned with the judgment principles of right and wrong in relation to human action and character.

F. *Objectives*

Quantified targets derived from established goals. The most commonly used resources in converting goals to objectives are money, time, human abilities, human actions, equipment, and space.

G. *Sum zero*

A situation in which there is a winner and a loser. The loser often usually loses what the winner wins.

H. *System*

An assemblage or combination of things or parts forming a complex or unitary whole.

II. Determine the need for a partnering system.

A. Suggestions and ideas to help in deciding about the use of partnering.

1. Litigation *should not* be considered as an initial method used to resolve construction disputes.
2. Partnering is most effective when used early in the project.
3. Advance commitment to partnering methods helps solve problems at their source and as they arise.
4. Support for partnering must be gained at all project team levels, particularly at the senior management level in those organizations involved.
5. Non-binding dispute resolution methods should be considered before resorting to binding dispute resolution.
6. Job site dispute resolution helps dispose of problems before they multiply.
7. All partnering participants must take responsibility for their thoughts and actions.
8. All managers must provide leadership where they can, or where they are expected to lead.
9. Don't play sum zero games.
10. Understand and use ethical principles to gauge your behavior
11. Partnering assumes most people are honest, concerned, desirous of challenge, need attention, and welcome help in times of turmoil.

III. Set goals and objectives to be gained from a partnering system.

A. The goals of a partnering system should be broadly stated by the project mission defined during a charter meeting.

1. Typical mission statements - from actual charters

- a) We seek to work together as a team producing valuable, accurate , high-quality hydrographic surveys at a fairly negotiated price.
- b) We, the partners for construction of the Bonneville Navigation Lock, commit to trust, cooperation an excellence for the benefit of all stakeholders.
- c) We, the Project Team commit to construct a quality facility, on time and within budget, maximizing safety, communications, & cooperation so that all participants can be proud and profitable in their accomplishments.
- d) Our mission is to work together in a trustworthy and professional manner to produce a quality project completed within budget, safely, and on time.

B. The objectives of a partnering system should be specific, understandable, and possible.

1. Typical partnering goals and objectives at random - from actual charters (some paraphrased).

- a) Address the problem not the person.
- b) Construction employees should maintain professional relationship with the client's employees and the public.
- c) Be a good construction neighborhood.
- d) Build it right the first time.
- e) Close out the job in a proper and timely manner.
- f) Define and clearly communicate quality expectations.
- g) Encourage value engineering.
- h) Have fun.
- i) Hold changes to a minimum.
- j) Hold regular team progress meetings and prepare and publish minutes.
- k) Limit cost growth to less than 5 %.
- l) Make timely release of retainage.
- m) Minimize paperwork.
- n) Minimize submittal and approval times for shop drawings.
- o) No litigation.
- p) Pay promptly.
- q) Plan, organize and publish site layout and organization.
- r) Prepare and implement a partnering evaluation system.
- s) Prepare and implement an effective alternative dispute resolution system.
- t) Prepare and publish close out procedures for all trades
- u) Prepare and publish organizational chain of command (with phone and fax numbers).
- v) Prepare and publish program to regularly monitor and report on job quality.
- w) Prepare and publish progress schedule and update regularly.
- x) Prepare and publish standard procedures for payment, changes, questions and other documentation.
- y) Prepare and submit complete and accurate submittals and shop drawings in a timely manner.
- z) Prepare, approve, and commit to a total quality management program.
- aa) Promptly resolve conflicts at the lowest possible level.

- ab) Stress and encourage pride in good workmanship.
- ac) Treat this project as if you were the owner.
- IV. Obtain management commitment for use of a partnering system.
 - A. Top management commitment to non binding resolution of conflict issues is vital to partnering success.
 - B. All levels of management and operations must be shown where value is added for them by use of the partnering process.
- V. Develop a partnering plan of action (the charter).
 - A. Tips for planning the partnering process.
 - 1. During the project programming period, encourage the owner, user, and design team to learn about, and consider, a partnering effort.
 - 2. During the construction proposal period, encourage prospective prime contractors, vendors and specialty contractors to learn about, and consider a partnering effort.
 - 3. Alert all parties that the project staff may, or will, be expected to be operate within a partnering system by which the facility is built.
 - 4. May be desirable to hold some early partnering orientation sessions to insure adequate understanding of partnering assumptions and requirements.
 - 5. Award contracts on the basis of well thought out partnering principles and guidelines.
 - 6. Gain and display the owner/user team support for the use of partnering to all involved.
 - 7. Adopt and display the design team support for the use of partnering to all involved.
 - 8. Inform and gain as much support for partnering from associations and other trade organizations as may influence the project implementation
 - 9. Continually review the partnering guidelines and assumptions for improvement.
 - B. Tips for writing the basic partnering document - the charter.
 - 1. Staff assistance recommended - you may not have all of these people available, but somebody has to do the following if you are going to write the charter in a single day.
 - a) Someone to introduce the subject - these are the top managers of the project team organizations.
 - b) Someone to chair the meeting - usually an outside neutral individual, a leader who is knowledgeable about the design and construction profession.
 - c) Someone to help take notes during combined group discussions.
 - d) Someone to help break out and reassemble groups.
 - e) Someone to display flip charts and other material as needed.
 - f) Someone to tend, as needed, to the break out groups.
 - g) Someone to make and distribute copies.
 - 2. Equipment recommended
 - a) Lap top or portable word processor & someone who knows how to use it.
 - (1) The meeting chair may type notes and other material as the meeting proceeds.
 - b) Copier near at hand - must be capable of quickly producing high quality copies of material prepared in the charter meeting.
 - c) Flip charts - probably as many as 5 to 7 with felt pens of various colors available for each.
 - d) Marker boards, markers, & erasers.
 - e) Wall space for display of charts.
 - f) Drafting tape - non paint destructive.
 - g) Push pins.
 - h) Transparent scotch tape.

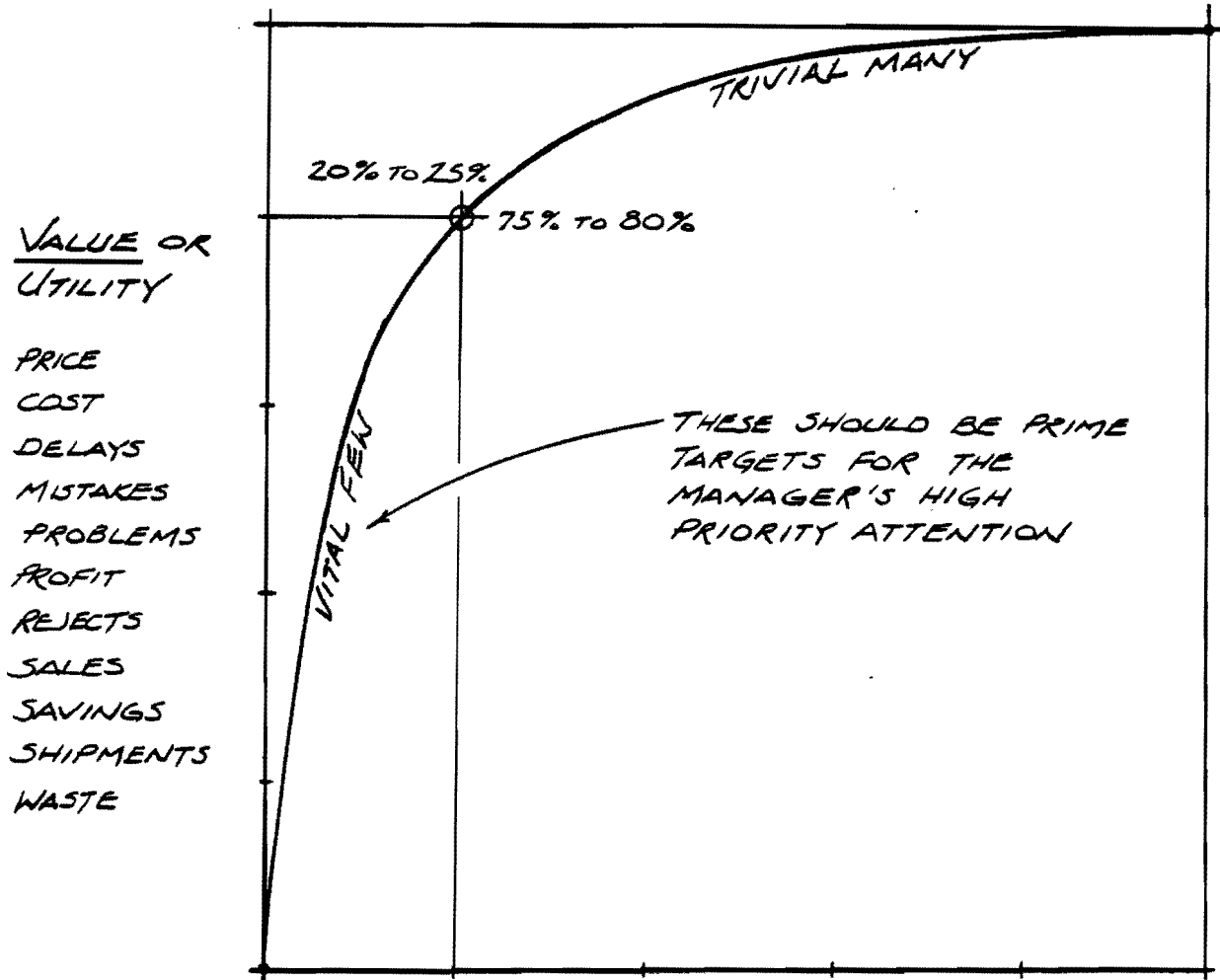
- i) Overhead transparency projector with spare bulb.
- j) Large screen - 6' x 6' at least
- 3. **Select who is to be in charge of the initial organizing effort**
 - a) Owner?
 - b) User?
 - c) Designer?
 - d) Contractor?
 - e) Neutral party?
 - f) Other?
- 4. **Set the date, time and place of the charter meeting.**
 - a) Make certain all key people can attend!
- 5. **Invite all involved in responsible project decision making and operations actions to the charter meeting.**
 - a) Owner.
 - b) Users.
 - c) Financing sources.
 - d) Planners.
 - e) Architects.
 - f) Engineers.
 - g) Specialty designers.
 - h) Prime contractors.
 - i) Sub contractors.
 - j) Key vendors.
 - k) Key suppliers.
 - l) Operators of the facility.
 - m) Regulatory representatives - who among these benefits from a good project?
 - n) Guests - who do you want to see you in action? Who might benefit from observing the session?
- 6. **Provide a briefing document to all expected to attend - to be sent over signature of senior management executive (of the owner, designer, or principal contractor).**
 - a) State objectives of the meeting.
 - b) Explain who is invited and expected to attend.
 - c) Present an agenda - well thought out & well written.
- 7. **Conduct the partnering meeting & write the charter in one day.**
- VI. **Award a memento of the day's work to all participants.**
 - A. Specially lettered celebration coffee cup.
 - B. Baseball cap with event lettering.
 - C. Calculation tablet in windproof folder lettered with the project name and the event.
 - D. Special badges with partnering meeting lettering and a message.
 - E. Certificate, specially lettered to celebrate the event.
 - F. Lettered T shirts (may be expensive).
 - G. Later, a special parchment copy of the signed charter.
 - H. Other?

IDENTIFY VITAL TARGETS

Which inputs and outputs most affect the results, the conditions and the performance the manager wishes to achieve? In considering these questions the following should be kept in mind.

- A. Rarely is more than one problem out of four worth other than a manager's fleeting glance.
- B. The good manager must quickly identify where his efforts are going to do the most good.
- C. The effective manager must understand Pareto's law - the principle of the vital few and the trivial many.
- D. In general, fewer than one third of the people a manager supervises require more than two thirds of his time.
- E. Managerial missteps resulting from not understanding the vital target concept include:
 - 1. Following prejudices
 - 2. Sticking with pat systems
 - 3. Doing what is easiest
 - 4. Playing hunches
- F. How to pick the vital few
 - 1. Prepare and use to do lists
 - 2. Set priorities
 - 3. Use a rating system
 - 4. Identify the critical tasks in a plan of action
- G. Moving from a situational view (macro) to the vital few (micro)
- H. What to do with the trivial many
 - 1. Delegate
 - 2. Defer (How long?)

PARETOS LAW - IN AN OBJECT/VALUE
SITUATION ONLY A FEW OF THE OBJECTS
ACCOUNT FOR THE GREATEST PART OF
THE VALUE.



OBJECTS OR RESOURCES

ACTIVITIES	MATERIALS
CAUSES	METHODS
OCCURANCES	PRODUCTS
PROBLEMS	SALES CALLS
RESOURCES	SERVICES
PRODUCTS	STAFF
DECISIONS	
FACILITIES	

EMPLOY THE POWER OF TRAINING

A manager multiplies his or her own knowledge and skills by teaching others. When considering a training, educational or coaching effort the following points might be helpful.

- 1. Educating is teaching and learning the generic principals of doing things. It is teaching principles that can be universally applied.
- 2. Training is teaching and learning the specific, explicit process of doing things. It is vocational and procedural.
- 3. Coaching is a limited one on one, or one on few teaching effort to educate, train, or to do both. It is personally guided dialogue between teacher and learner.
- 4. Unguided learning sometimes occurs naturally, but it may turn out to be random, inexact, wasteful and tend to encourage bad habits.
- 5. Good training, educating and coaching usually results in improved staff performance.
- 6. Good staff performance allows the manager to devote more of his time to concentrating upon, initiating action of, and directing and controlling the resources at his disposal.
- 7. The need for good training, educating & coaching is ongoing irrespective of how good or bad business & organizational times are.
- 8. The excellent manager will usually try to teach what he knows to those who wish to learn
- 9. The improvement cycle is an important element of effective training and education. Elements of the improvement cycle - inertia, initiative, insight and improvement (the four I's) - are defined as follows:

A. **Inertia** - resistance to change

1.) Reasons for inertia

- a.) Fear for safety
- b.) Fear for security
- c.) Concern for comfort

- d.) Doubts about ability
- f.) Dislike for schooling
- g.) Preoccupation with other problems

2.) Overcoming inertia

- a.) Use motivation to get going - habit to keep going
- b.) Motivation must be mainly furnished by supervision
- c.) Neutralize fear that accompanies inertia

- (1.) Show that others in similar positions have benefited from learning.
- (2.) Show that added skills give more, not less, security through added employee value.
- (3.) Acknowledge doubts as to aptitude or potential.
- (4.) Criticize constructively and express willingness to tolerate learning mistakes.
- (5.) Show the employee that training will be truly relevant; that what he learns can be used now, for his and the company's benefit.
- (6.) Plan the learning program so the participant is rewarded with some quick and simple success experiences.

B. **Initiative** - the removal of inertia as a barrier to learning. Once the reasons for inertia have been removed by the teacher the desire to learn will begin to appear. Initiative is then the responsibility of the learner.

C. **Insights** - the key elements of a subject that deal with the intellectual, the physical and the procedural requirements of learning. Insights are of different kinds:

- 1.) Intellectual insights - those that concern the whole concept of what is to be learned
- 2.) Physical insights - those that concern getting the physical feel of the process - the touch, tone, heft and smell of the job
- 3.) Procedural insights - those related to sequential demands of the operation

D. **Improvement** - Accelerated learning gained by overcoming inertia, taking initiative, gaining insights. Is encouraged by:

- 1.) Applying learned principals through exercises

- 2.) Stepping up challenges by increasing levels of difficulty
 - 3.) Accelerating flow of learning challenges until the rate of improvement levels off (this may constitute a return to the inertia plateau and signal the need for a new cycle)
- 10. The basic phases of a training program are planning, instruction, evaluation
 - A. **Planning**
 - 1.) Survey and analyze needs
 - 2.) Identify and analyze key learning need points
 - 3.) Select training methods
 - 4.) Prepare the training outline
 - B. **Instruction**
 - 1.) Capture interest and arouse initiative
 - 2.) Give insights
 - 3.) Accelerate improvement
 - C. **Evaluation**
 - 1.) Review progress
 - 2.) Evaluate results
 - 3.) Make plans to overcome the next inertia plateau

Working Well With People

Working well with people is the key to multiplying your effectiveness. The good manager reaches his objectives through the work of those in whom he has confidence.

Some pointers to keep in mind as you work with others are:

- 1. Learn about and understand the behavioral sciences
 - A. Basic sciences are
 - 1.) Anthropology (origin, development and behavior of humanity)
 - 2.) Psychology (attitudes and feelings)
 - 3.) Physiology (body characteristics)
 - 4.) Sociology (environmental & group influences & relations)
 - B. The manager should start with the assumption that most people want to do a good job
 - C. Most people want to share in the success of a common effort
 - D. The good manager learns to avoid people manipulation
 - 1.) Manipulation is excessive management of other's feelings and emotions
 - 2.) Manipulation is often rooted in fear
 - 3.) Genuine interest and willingness to trust people is an effective thought pattern that will help avoid manipulation
 - 4.) Don't play behavioral games with employees or subordinates
 - E.) Motivation and maintenance
 - 1.) Maslow's basic motivational priorities
 - a.) Man wants to be alive and stay alive
 - b.) He wants to feel safe and secure
 - c.) He wants to socialize with other people
 - d.) He wants to feel worthy and respected
 - e.) He needs to do the work he likes
 - 2.) Motivational elements
 - a.) Nature of work
 - b.) Recognition of achievement
 - c.) Utilized abilities

- d.) Challenging assignments
- e.) Extended involvement and responsibility
- f.) Production of something of worth

3.) Motivation is introduced into the work place by providing genuinely satisfying conditions that reflect the hierarchy of human values

4.) Maintenance - those job elements that do not in themselves motivate, but when missing, reduce the incentive to produce

- a.) Pay and benefits
- b.) Security
- c.) Working environment
 - (1.) Status
 - (2.) Social activity

5.) Use motivation and maintenance to help avoid managing by force

- (a.) Force is primitive rather than scientific
- (b.) Force kills the qualities a good manager must encourage in his employees. These qualities are
 - (1.) Confidence
 - (2.) Spirit
 - (3.) Self reliance
 - (4.) Assurance
 - (5.) Self sufficiency

• 2. Know and understand the people you work with

A. Elements of importance are:

- 1.) Name, age, address
- 2.) Employment record
- 3.) Education
- 4.) Military service record
- 5.) Family and dependents
- 6.) Medical characteristics
- 7.) Off job interests
 - a.) Job related
 - b.) Recreation, hobbies
 - c.) Community
- 8.) Personal beliefs
- 9.) Personal habits
- 10.) Life goals

- B. A good manager does not
 - 1.) Pry for facts people don't want to reveal
 - 2.) Gossip about people
 - 3.) Reveal confidences
 - 4.) Break trusts
- C. Knowing a person well can allow you to more properly place confidence in him
- 3. Express your respect and confidence to people when actually deserved
 - A. Should be expressed publicly and privately
 - B. Respect and confidence are reciprocal in a good working relation
 - C. Don't confuse being liked with being respected
 - D. The minds of people perceive both what management says and what they do
 - E. The respected employee wants to be treated well and used well
- 4. Communicate freely
 - A. Within allowable boundaries keep people informed about
 - 1.) What is going on in the larger picture around them
 - 2.) What changes are planned
 - 3.) What objectives are set for their functional activities
 - B. Listen carefully to what your people are saying. Try to understand
 - 1.) The outward message
 - 2.) Feelings they are attempting to express but don't or can't
 - C. To watch out for in communications
 - 1.) Use discretion as to what should and should not be conveyed to your people. Don't show off superior access to information.
 - 2.) Generally, base your actions with people on what you actually know about the situation, rather than on what you think others may be thinking.
 - 3.) Your suggestions as a peer are considered conversation: your suggestions as a boss are generally regarded as an order.
- 5. Provide people with challenging assignments
 - A. To expect a lot from your staff or crew is to show respect for their abilities, initiative and perseverance
 - B. Be firm but fair in assignment and in follow up. A boss doesn't have to be liked to be effective
 - C. Usually challenging work is accompanied by a possibility of failure
 - D. A challenging assignment should be doable

- 6. Delegate important tasks frequently
 - A. Don't try to make all decisions about every job by yourself
 - B. Let your people accept new responsibilities and to make occasional mistakes; that's the way they will learn and improve
 - C. Make it known that the more important jobs that you delegate are training assignments. You then retain control of the activity and can make comparative critiques of performance without offense
 - D. Don't be frightened of losing your influence through delegation .
Constructive delegation is the path to greater influence and power
 - E. The delegation sequence
 - 1.) Use guided actions. Be available to help the subordinate do the new work
 - 2.) Show the learners how to do the job, and encourage them to further delegate, where appropriate, by having them train or coach their subordinates in the activity
 - 3.) Delegate the whole job and involve subordinates in the early planning as well as the activity itself

- 7. Study and understand the benefits and shortcomings of each subordinate's participation

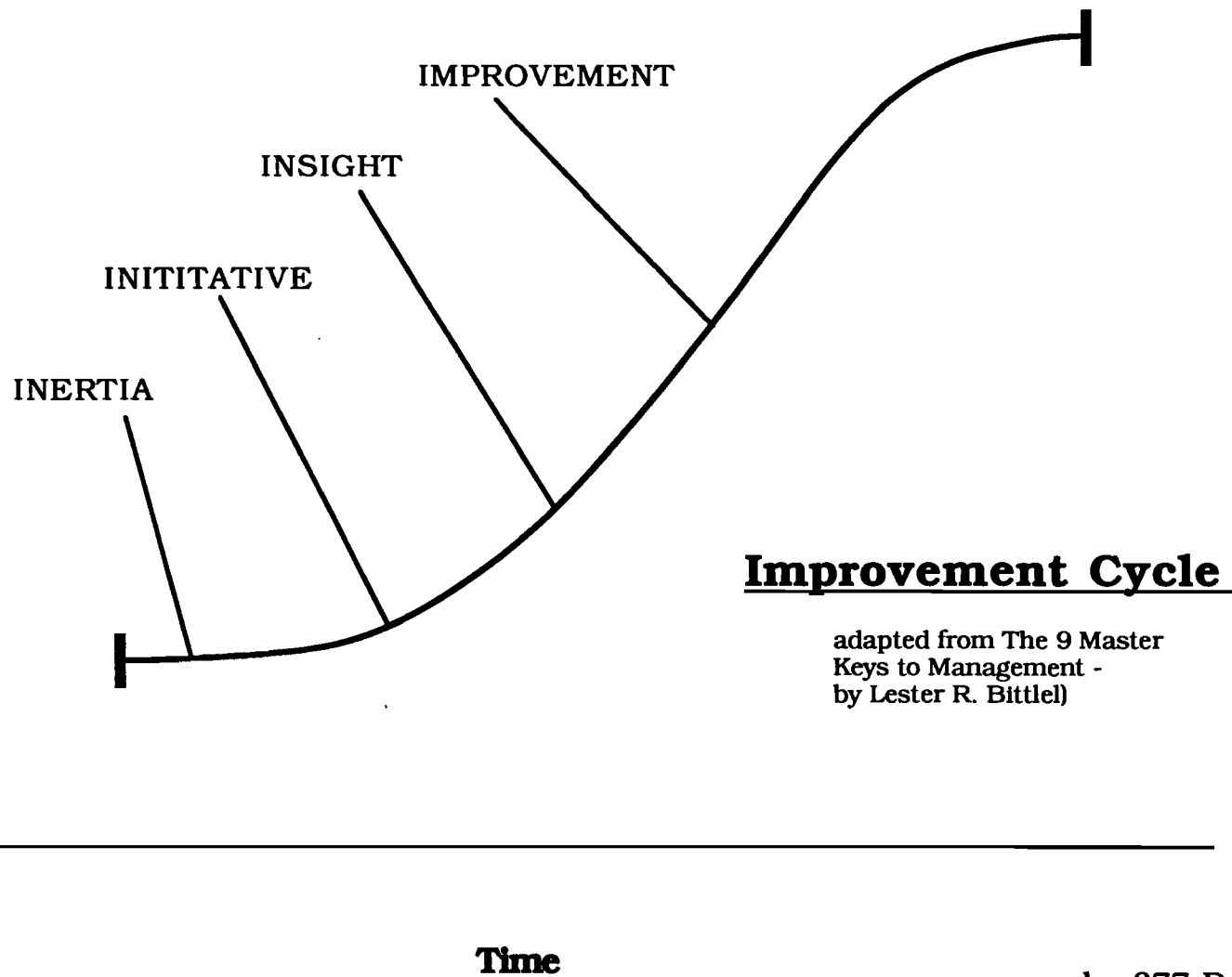
For further study:

1. Hawthorne experiment (1927) - encouraging workers to get things off their chest was proven to increase production
2. IBM (1950's) - job enlargement broadened divisions of labor. Improved quality, output and morale
3. Harwood Manufacturing - controlled experiments in employee participation produced impressive improvement. Measured by using three different methods of conveying information about proposed operational revisions
4. Texas Instruments - emphasized use of goal oriented management rather than authority oriented management. Manager exerts most of his leadership in planning. Subordinates carry out the actual plan, control, do cycle

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5. American Telegraph and Telephone - used job enrichment process focusing on the work itself. Encouraged employee decisions on HOW the work was to be done. Resulted in money savings, reduced turnover and improvement in staff utilization.

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4.21

General Format for Partnering Specification

I. Sample Construction Partnering Specification

The NSEDS Corporation, and their design and construction consultants intend to encourage, support and implement a partnering system on their expansion program with the full participation of the contractors and their subcontractors.

Partnering is a performance system designed to achieve an optimal relationship between all parties to a construction contract. Further, it is a method of conducting business in the planning, design and construction profession without unnecessary, excessive or disruptive external party involvement.

The partnering system is structured to draw on the strengths of each participating organization to identify and achieve mutually profitable objectives.

The partnering system will consist of three main elements, preparation of a partnering charter, establishing and implementing a partnering effectiveness evaluation technique, and establishing and implementing an issue resolution procedure.

Contractors will be required to participate in establishing these three elements of the partnering system in conjunction with the NSEDS Corporation and its consultants.

It is anticipated that within 14 calendar days of the issuance of a notice to proceed with construction, the NSEDS Corporation, its consultants, and the prime contractors on the project will participate, with their subcontractors, in a one day meeting to write a partnering charter.

The partnering charter is the basic manual for operating a partnering system. It includes at a minimum the mission of the project, and the objectives of the project team. In addition it outlines in broad terms, the project evaluation methods to be used, and the dispute resolution process to be applied to conflict issues as they arise on the job.

It is anticipated that within 14 calendar days after the partnering charter meeting that a partnering evaluation task force will be appointed by mutual agreement among the partnering charter participants, and will meet to establish and publish a partnering effectiveness evaluation method. This partnering evaluation method will set guidelines for measuring project performance as periodically measured against the mission and objectives set out in the charter.

Also within 14 calendar days after the partnering charter meeting a mutually selected issue resolution task force will be appointed from the partnering charter participants. This task force will establish and publish an issue resolution procedure encouraging the use of alternative dispute resolution (ADR) techniques.

Alternative resolution methods are voluntary, and designed to help resolve conflicts quickly, satisfactorily, and as near as possible to the originating level of the conflict.

As a part of their expected contract performance each party will be expected to participate in the preparation and maintenance of the charter, the periodic evaluations, and the issue resolution

wex partnering 93
University of Wisconsin
November, 1993

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October 10, 1993

process. Outside costs for effectuating the partnership will be mutually agreed to by all parties.

Figure 10.01 - Olanta Data Systems expansion - Travis, North Dakota

PROJECT PHASE

Partnering participation matrix

stakeholder	function	col 1 conceive	col 2 program (comp)	col 3 finance	col 4 schematic (comp)	col 5 project approval	col 6 des dev & wk dwg p1	col 7 const phase 1	col 8 occupy phase 1	col 9 des dev & wk dwg p2	col 10 const phase 2	col 11 occupy phase 2
00.01 - Olanta facility staff		X	X	X	X	X	X	X	X	X	X	X
00.02 - Olanta user staff		X	X	X	X	X	X	X	X	X	X	X
00.03 - Loring and Metzger - Architects & Engineers of record		X	X		X	X	X	X	X	X	X	X
00.04 - Toonk & Smith - Structural Engineers			X		X		X	X		X	X	
00.05 - Frank Wilson & Sons - Mechanical & Electrical Engineers			X		X		X	X	X	X	X	X
00.06 - Varlent Engineering - Civil Engineers			X		X		X	X	X	X	X	X
00.07 - Strendel - Geotechnical Engineers & Testing			X		X		X	X		X	X	
00.08 - Mechelct - Mechanical & Elect. Balancing & Commissioning - Phase 1					X		X		X	X		X
00.09 - Tiltson & Greene - Construction Consultants & Advisors - Phases 1 & 2		X	X	X	X	X	X			X		
00.10 - Tiltson & Greene - General Contractors - Phases 1 & 2								X	X		X	X
00.11 - Brown Mechanical - Mechanical Contractors - Phase 1								X	X			
00.12 - Powers Electric - Electrical Contractor - Phase 1			X			X		X	X			
00.13 - Efficiency Design - Fixtures & Furnishings Contractor - Phase 1								X	X			
00.14 - Sub Contractors for Phase 2 construction work											X	X

X - indicates sufficiently high involvement to participate in partnering effort as stakeholder. Shaded columns indicate phases of project where partnering charter meetings should be considered.

• *Section #5 - Planning the Partnering Meeting*

- | | |
|--------------|--|
| 5.01 to 5.08 | Preparing for the partnering briefing and workshop |
| 5.08a | Network model for partnering planning work |
| 5.09 & 5.10 | Steps to be taken in planning and implementing a partnering system |
| 5.11 to 5.13 | Partnering note template |

Preparing for the Partnering Briefing and Workshop

I. Definitions

A. *Dysfunction - Organizational*

An organizational problem that hinders or prevents achieving objectives. May be temporary or permanent.

B. *Par value*

A value used to define an acceptable level of worth of a charter goal or objective for a specific project. The par value of a goal or objective is usually established immediately after the charter is written, and is set by the evaluation task force of stakeholders.

C. *Par weight*

A weight used to define an acceptable level of achievement of a charter goal or objective for a specific period of time. The par weight of a goal or objective is usually established by the evaluation task force of stakeholders.

D. *Ultimate Decision Maker*

The individual or group at the lowest management level that has the authority to make a final binding decision in any job related matter.

E. *Value*

The worth of an open system goal or objective. Often multiplied by the weight of the factor to give a weight/value rating of the goal or objective to help measure performance.

F. *Weight*

The relative importance of a factor being used to help evaluate performance. The factor importance is frequently measured on a numeric scale from 1 to 5, in which a very high positive influence is indicated by a rating of 5. A very low influence is indicated by a rating of 1. The weight of a factor multiplied by the value gives a weight/value rating of the factor to help determine acceptable performance standards.

II. First, decide to use a partnering system on the project.

III. Prepare and send invitation letter and agenda for the partnering workshop.

November 13, 19__

Dear _____:

The Network Mutual Insurance Company requests your presence on Friday, November 30, 19__ , at a meeting to prepare a partnering charter to guide construction of their new downtown headquarters building.

Enclosed with this letter is a packet of partnering explanatory materials. I would appreciate it if you would read this material prior to the meeting. Mr. Prince of Prince Construction tells me that you have already attended a briefing session on partnering conducted by their project management staff.

Partnering is fully supported by me, by Network Mutual's senior executive and facilities staff, by Mr. Thomas Bonwitt president of Bonwitt & Providence, the architects/engineers of record, and by Mr. Roy Prince, president of Prince Construction, general contractors for the project.

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Consulting Engineer

Below are outlined the meeting objectives and agenda for the November 30, 19__ session. The neutral chair of the meeting will be Marion Day, a well known, and highly respected design and construction consultant in our area.

We appreciate your interest, participation and efforts to help improve the probability of success for you, and for us on this significant project.

Sincerely yours,

Cirro T. Street
President, and Chief
Operating Officer

Purpose of meeting: To develop and adopt a partnering charter for the guidance of NIMC's project team.

Location of meeting: Topaz Hotel - 444 Lincoln Street

Those attending: See attached list.

Meeting chairman: Marion Day, Consultant

Timetable

07:00 to 08:00 am - Continental breakfast - Steamship Room - 1st floor level

08:00 to 10:00 am - Session #1

- Introduction - by Cirro Street, Thomas Bonwitt and Roy Prince.
- Exercise #1 - What actions do others take that create problems for us? - break out for discussion, reassemble, & present findings.

10:00 to 10:15 am - Coffee break.

10:15 to 12:00 noon - Session #2

- Exercise #2 - What actions do we take that cause problems for others? - break out for discussion, reassemble, and present findings.
- Exercise #3 - What recommendations can we make that could improve relations and performance on the Network Mutual project?
- Exercise #4 - In light of exercises #1, 2 & 3 what do I think my organization's mission is on the Network Mutual project.

12:00 to 01:00 pm - Lunch - United States Room - 2nd floor level

- During lunch a small, specially selected task force will meet in a separate room, and prepare a 25 word or less 1st draft mission statement for the project.

01:00 to 03:00 pm - Session #3

- Exercise #5 - Full partnering membership discuss, revise and accept the 1st draft mission statement as revised.
- Exercise #6 - What specific project objectives can we now set within the results of exercises #1, 2, 3, 4, and 5 that will help insure excellent relations and performance on the Network Mutual project?

03:00 to 03:15 pm - Break.

03:15 to 05:00 pm - Session #4

- Review principles of alternative dispute resolution.
- Review principles of partnering performance monitoring and evaluation.
- Exercise #7 - Combine all previous discussion into a charter ready for signatures.
- Print final draft of charter.

05:00 pm - Session #5 - sign charter & receive award memento.

05:15 pm - Adjourn to social hour in meeting room.

* * *

IV. Obtain management commitment to a partnering plan.

- A. The charter signing process is designed to signify management commitment.
- B. Make certain all attending know that a desired end result of the day is to have a properly written charter, agreed to in principle and signed by all responsible parties attending.
- C. Insure the charter remains as a commitment by those signing to try to achieve the formal contract requirements within an informal handshake agreement as defined in the charter.
- D. The charter must be written so as to not supersede, contradict, or conflict with the design and construction contract documents.
- E. The charter is a moral agreement to behave in a responsible manner within the boundaries of the legal contract.

V. Brief project participants in the partnering concept.

- A. Short meetings, workshops and discussion groups can be all helpful in implementing the charter agreement. These should aim to improve the probability of adherence to the charter mission and objectives.
- B. Briefings should include orienting the stakeholders on dispute resolution and partnering evaluation.

VI. Create and implement an issue resolution system.

- A. Step #1 - Ultimate decision maker (UDM) appoint a task force.
 1. Select from among signatories to partnering charter - the stakeholders.
 2. Must be given the full support of top project management.
- B. Step #2 - Task force write and set an issue resolution policy.
 1. Sample issue resolution policy - from Detroit VAMC partnering agreement.

a) "Policy.

"It is the goal of the participants of this project to first and foremost avoid unnecessary conflict. To achieve this, we will maintain open lines of communications as stated in the Partnering Charter. Further, it is our goal to resolve an issue at the level at which it arose. If this is not possible the issue will be referred promptly to the next highest level for resolution.

In all cases, individuals who are involved in a difference should be businesslike and not resort to personal attack. The principles outlined in the Partnering Charter objectives should be followed at all times in resolving differences.

Upon request, site meetings will be used to discuss any unresolved issue in an attempt to reach resolution. Any issue presented should be clearly defined and alternative solutions considered. The resolution process is to work through open communication and looking at the other side's point of view. In addition, issues are to be kept in the forefront to ensure resolution in a timely manner. A log of unresolved issues will be maintained from meeting to meeting.

If resolution cannot be reached at the job site, the principals of the involved firms or agencies should attempt to reach resolution through informal discussion before the formal process outlined in the contract documents is used.

In seeking resolution to an issue, involved parties will attempt to:

- Thoroughly understand the issue.
- Maintain empathy for the other point of view.
- Communicate thoughts openly and clearly.
- Clearly document resolution."

b) Methodology.

- (1) Goal - to encourage and provide a forum for resolution of issues at the lowest possible level, but to provide a mechanism to elevate the issue if needed.
- (2) If resolution is not achieved at the lowest level forum, the principals in the firm in conflict will attempt to reach resolution through informal discussion."

C. Step #3 - Task force sets methods of alternative dispute resolution to be used.

D. Step #4 - Task force establishes log system to record filing of issues and disputes.

E. Step #5 - Project management in conjunction with the task force takes immediate action to resolve issues and disputes through the use of the issue resolution policy guidelines.

VII. Create and implement a partnering review and evaluation process.

A. Step #1 - Ultimate decision maker appoint task force.

1. Select from among signatories to partnering charter - the stakeholders.
2. Must be given the full support of top project management.

B. Step #2 - Task force write and set partnering evaluation procedures.

C. Step #3 - Task force sets and maintains a schedule of regular evaluation meetings - each three to six weeks - varies from project to project.

D. Step #4 - Task force uses charter objectives to measure project partnering effectiveness.

1. Assigns par weights and par values to each objective
2. Regularly judges implementation effectiveness by a value applied to each objective and the rating determined by multiplying the par weight by the current value.

3. Each member of task force makes and and submits individual evaluation.
 4. Evaluations are combined and averaged for discussion.
 - E. Step #5 - Where dysfunctions are identified, the task force recommends solutions, and acts promptly to resolve the dysfunction and its cause.
- VIII. Examples of charters - provided by courtesy of project management and staff as noted
- A. Frankenmuth Mutual Insurance Company Office and Renovation - Frankenmuth, Michigan
1. Mission
Our mission is to work together in a trustworthy and professional manner to produce a quality project completed within budget, safely, and on time.
 2. Objectives - to accomplish our mission we recognize a need to work to the following goals and objectives:
 - a) Maintain lines of effective communications
 - (1) Hold regular team progress meetings and prepare and publish minutes
 - (2) Prepare and publish organizational chain of command (with phone and fax numbers)
 - (3) Continually communicate a spirit of cooperation through actions
 - (4) Prepare and implement a partnering evaluation system
 - (5) Prepare and publish progress schedule and update regularly
 - b) Paper and Administrative work
 - (1) Prepare and submit complete and accurate submittals and shop drawings in a timely manner
 - (2) Prepare and publish standard procedures for payment, changes, questions and other documentation
 - (3) Prepare and publish close out procedures for all trades
 - (4) Prepare and publish submittal processing procedures
 - c) Prepare and Implement an Effective Alternative Dispute Resolution System
 - (1) General contractor to appoint resolution task force
 - d) Cost Management
 - (1) Encourage value engineering
 - (2) Identify and resolve cost growth problems early
 - (3) Hold changes to a minimum
 - e) Good Work site
 - (1) Plan, organize and publish site layout and organization
 - (2) Keep disruptions to owner's operations at a minimum
 - (3) Maintain a clean, safe, secure site and surrounding area
 - (4) Hold regular safety meetings to be attended by all workers
 - f) Job Morale & Attitude
 - (1) Stress and encourage pride and workmanship
 - (2) Respect other trades
 - (3) Address the problem not the person
 - (4) All construction employees maintain professional relationship with Frankenmuth Mutual employees and the public
 - g) Quality Control
 - (1) Prepare and publish program to regularly monitor and report on job quality
 - (2) Use qualified personnel
 - (3) Treat this project as if you were the owner

- h) Payment
 - (1) Pay promptly
 - (2) Prepare and publish accurate schedule of value of subcontracts
 - (3) Make timely release of retainage
- i) Legal matters
 - (1) Avoid litigation

B. Veteran's Administration Medical Center Replacement Hospital - Detroit, Michigan

1. Mission statement

- We the undersigned recognize that we all have common objectives. We therefore agree to strive together to construct the Detroit VAMC safely, on time and within budget to the highest quality standards commensurate with its mission of serving veterans and the community.
- To achieve our mission we believe in the following principles
 - Commitment
 - Mutual trust
 - Integrity
 - Personal pride

2. Charter objectives

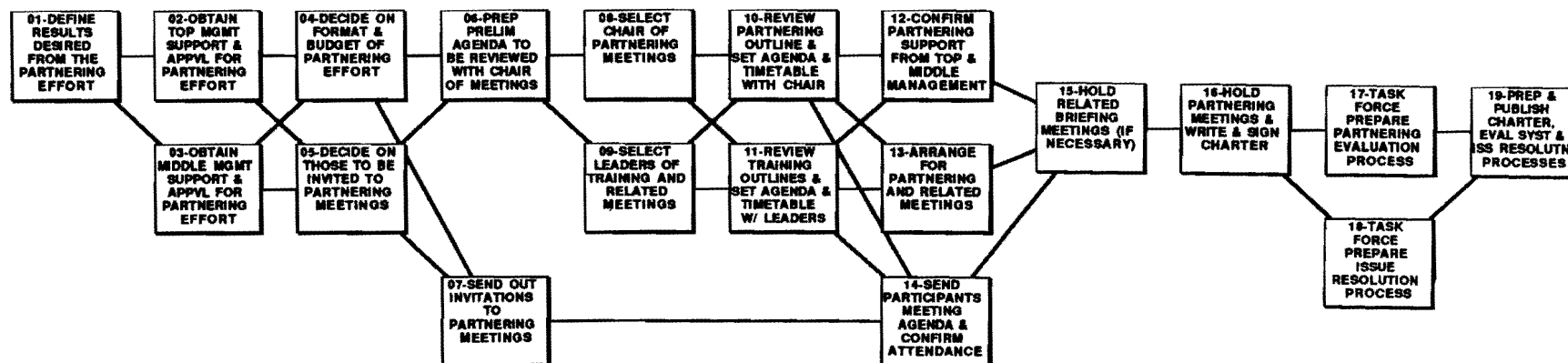
- a) 01. Maintain open lines of communications.
 - (1) a. Recognize the need for quality information
 - (2) b. Minimize submittal and response times in all matters
- b) 02. Keep paper and administrative work to a minimum.
- c) 03. Develop and implement an alternative conflict resolution system.
 - (1) a. Prompt resolution of conflicts at lowest possible level
 - (2) b. Eliminate need for Contracting Officer decisions
 - (3) c. Fair interpretation of ambiguities
 - (4) d. Be proactive (not reactive) in problem solving
 - (5) e. Maintain objective attitude toward constructibility and practicality
 - (6) f. Accept responsibility for your actions or inactions
 - (7) g. Have empathy in all matters
 - (8) h. Clearly describe changes to contract work
- d) 04. Limit cost growth.
 - (1) a. Develop cost effective measures
- e) 05. Maintain clean, efficient, secure work site.
 - (1) a. No lost time due to accidents
 - (2) b. Properly staff project
 - (3) c. Be a good neighbor
- f) 06. Seek to maintain good job morale and attitudes.
 - (1) a. Promotion of partnering attitudes at all levels of contract administration
 - (2) b. Have fun
 - (3) c. Have pride in your product
- g) 07. Commit to quality control in all project related matters.
 - (1) a. Do it right the first time
 - (2) b. Maintain proper work sequence

- (3) c. Meet design intent
- (4) d. Recognize owner's needs in occupation and operation of the facility
- h) 08. Close out job in proper and timely manner.
- i) 09. Maintain and implement a partnering evaluation system.
- C. **Michigan Millers Mutual Insurance Addition & Renovation** - Lansing, Michigan
 - 1. **Mission**
We the Project Team commit to construct a quality facility, on time and within budget, maximizing safety, communication, & cooperation so that all participants can be proud and profitable in their accomplishments.
 - 2. **Objectives** - to accomplish our mission we recognize a need to work to the following goals and objectives.
 - a) Submittals
 - (1) Clarify objectives and expectations of the submittal process.
 - (2) Minimize submittal and approval times.
 - (3) Provide accurate, prompt, clear, concise approvals.
 - b) Payments
 - (1) Make payments in accordance with the published flow chart process.
 - c) Information processing & paperwork
 - (1) Expedite all information and indicate desired response times .
 - (2) Maintain open lines of communication among Project Team members.
 - (3) Be available.
 - (4) Attempt to offer possible solutions to questions within a proper scope.
 - (5) Provide clear responses to requests for information.
 - d) Legal matters
 - (1) No litigation.
 - (2) Settle disputes at originating level .
 - e) Abatement
 - (1) Establish, approve and publish a plan of abatement.
 - (2) Abate promptly.
 - f) Planning and scheduling
 - (1) Provide, obtain, and use accurate activity information.
 - (2) Clearly monitor the project against the plan and schedule.
 - (3) Commit to, and fulfill man hour projections.
 - g) Decision making
 - (1) A/E team to regularly inspect work and advise compliance.
 - (2) Define and clearly communicate quality expectations.
 - (3) Properly empower those at all decision making levels.
 - h) Policies and procedures
 - (1) Prepare, review, approve and publish policies and procedures that will serve as guidelines to manage the project.
 - i) Site layout and management
 - (1) Formulate and publish a trash removal & parking plan.
 - (2) Properly establish and maintain bench marks and control lines.
 - j) Processing revisions
 - (1) Provide written authorization prior to work proceeding.
 - (2) Respond to requests for information, bulletins and change orders promptly.
 - (3) Prepare, approve & publish a flow chart for processing revisions.

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- k) Be a good partnering neighbor
 - (1) Commit to protecting your work and the work of others.
 - (2) Show all participants due respect and acknowledgement.
 - (3) Maintain proper work sequences.
- l) Total quality management (TQM)
 - (1) Prepare, approve, publish, and commit to a TQM program.

5.08 a



Network Model for
Partnering Planning Work

Partnering Planning

NETWORK PLANNING MODEL FOR OLANTA FACILITY EXPANSION

Olanta Data Systems, Ltd.
Travis, North Dakota

Outline of Steps to be Taken in Planning and Implementing a Partnering System

- I. Generate and express interest - from internal or external source.
- II. Verbally brief those expressing interest on key points in the system.
- III. Determine the ultimate decision maker in the system.
- IV. Provide the ultimate decision maker (UDM) with a written description of the partnering system.
 - A. Your understanding of the project, its characteristics, and its function.
 - B. A definition of what is to be accomplished in the charter meeting.
 - C. Definitions of key terms in partnering.
 - D. Cost of the charter meeting and of maintaining the partnering system.
 - E. A description of the follow up work after writing the charter.
- V. In conjunction with the UDM select those who will attend the charter workshop - participants & observers.
- VI. UDM give approval to proceed with the partnering meeting.
- VII. Provide the UDM with suggested details of the charter meeting.
 - A. Project name and brief description.
 - B. Date of meeting.
 - C. Location of meeting.
 - D. Time of meeting.
 - E. List of desired participants and visitors - prepared with UDM.
 - F. Suggested letter to be sent to attendees.
 - G. Agenda for meeting.
 - H. Meeting room set up.
 - I. Equipment needs.
 - J. Award memento suggestions.
 - K. Meeting follow up suggestions.
 - L. List of key definitions.
- VIII. Obtain formal approval to proceed with meeting.
- IX. Prepare working notebook for meeting - should include at minimum
 - A. Title page
 - B. Agenda
 - C. Key definitions
 - D. Meeting outline and details
 - E. Possible team groupings
 - F. Route of dispute resolution
 - G. Sample charters
 - H. Sample issue resolution description.
 - I. Sample partnering evaluation work sheet.
- X. Conduct charter writing work shop analysis workshop.
- XI. Write charter.
- XII. Sign charter.
- XIII. Award memento.
- XIV. Have celebration session.
- XV. Project task force prepare and implement issue resolution policy.
- XVI. Project task force prepare and implement partnering evaluation system

wex partnering 93
University of Wisconsin
November, 1993

Ralph J. Stephenson, P. E., P. C.
Consulting Engineer
October 10, 1993

- XVII. Reconvene and reconsider the partnering system at major milestone points in project.
XVIII. At the close of the project conduct a partnering critique of the systems characteristics.

Northern States Economic Data Systems Partnering Charter Meeting - disk 370

- I. Date of charter meeting - Thursday, November 4, 1993
- II. Time of meeting - ??? A. M. to ??? P. M.
- III. Location - Wisconsin Center, University of Wisconsin, Madison, Wisconsin
- IV. Material & equipment provided
 - A. Partnering Charter Work Book - prepared by ???
 1. Title sheet
 2. Agenda
 3. Partnering definition AGC
 4. Partnering definition CII
 5. Partnering definition - rjs
 6. Participant notebook outline
 7. Team groupings
 8. Mission, goals, objectives definition
 9. Route of dispute resolution
 10. Charter example
 11. Issue resolution
 12. Evaluation method
 13. Partnering evaluation example
 - B. Flip charts for each table plus 2 in front
 - C. 2 overhead projectors
 - D. Screen
 - E. Copying facilities
- V. Those attending charter meeting
 - A. ???
 - B. etc.
- VI. General meeting notes
 - A. Introductory activities
 1. Started at ??? am.
 2. Introduction by ???, chairman
 3. Self introductions of participants.
 4. Overview of day's schedule from work book - ???
 - B. Review of definitions of partnering - see work book
 1. AGC definition
 2. CII definition
 3. RJS definition
- VII. Table work resume
 - A. Break out groups, their comments and their recommendations
 1. Table #1 - Owner/user group.
 - a) Group members (owner/user).
 - b) Problems others cause us (owner/user).
 - c) Problems we cause others (owner/user).
 - d) Recommendations for improvement (owner/user)
 2. Table #2 - Design group.
 - a) Group members (design group).
 - b) Problems others cause us (design group).

- c) Problems we cause others (design group).
 - d) Recommendations for improvement (design group).
 - 3. **Table #3 - Advisory professional services.**
 - a) Group members (advisory professional services).
 - b) Problems others cause us (advisory professional services).
 - c) Problems we cause others (advisory professional services).
 - d) Recommendations for improvement (advisory professional services).
 - 4. **Table #4 - General contractor.**
 - a) Group members (general contractor).
 - b) Problems others cause us (general contractor).
 - c) Problems we cause others (general contractor).
 - d) Recommendations for improvement (general contractor).
 - 5. **Table #5 - Miscellaneous contractors.**
 - a) Group members (miscellaneous contractors).
 - b) Problems others cause us (miscellaneous contractors).
 - c) Problems we cause others (miscellaneous contractors).
 - d) Recommendations for improvement (miscellaneous contractors).
 - 6. **Table #6 - Mechanical & control contractors.**
 - a) Group members (mechanical & control contractors).
 - b) Problems others cause us (mechanical & control contractors).
 - c) Problems we cause others (mechanical & control contractors).
 - d) Recommendations for improvement (mechanical & control contractors).
 - B. **Individual mission statements prepared by participants**
 - 1. **Mission statement #1 - Prepared at beginning of meeting.**
 - a) ????
 - aaaaa
 - 2. **Mission statement #2 - Prepared after workshop 3**
 - a) ????
 - aaaaa
- VIII. **Collective mission statement**
- A. **Initial mission statement from task force**
aaaaa
 - B. **Final edited mission statement from group discussion**
bbbbb
- IX. **Objectives**
- A. **Starter list of categories of objective definitions. (for reference only)**
 - 1. Approval processes
 - 2. Being a good neighbor
 - 3. Closing out
 - 4. Communicating
 - 5. Constructibility
 - 6. Construction document quality
 - 7. Cost growth
 - 8. Good work site
 - 9. Job morale & attitude
 - 10. Legal matters
 - 11. Maintain regular partnering evaluations
 - 12. Paper and administrative work

13. Payments
 14. Planning and scheduling
 15. Policies and procedures
 16. Processing revisions
 17. Quality control
 18. Submittal processing
 19. Time growth
 20. Unclassified
 21. User group interactions
 22. Using alternative dispute resolution - ADR
- X. Charter
- A. Charter for Northern States Economic Data Systems project
 1. Draft #1 - charter
 - a) Mission.
aaaaa
 - b) Objectives
(1) aaaa
 2. Draft #2 & final copy - charter
 - a) Mission.
bbbb
 - b) Objectives
(1) bbbb

• ***Section #6 -Writing the Partnering Charter***

6.01 to 6.03	Case study #1 - The World Wide Data Business
6.04	Title sheet for case study #1
6.05 to 6.11	Participant notebook outline for case study #1
6.12 & 6.13	Agenda for case study #1
6.14	Partnering definition AGC
6.15	Partnering definition rjs
6.15a & 6.15b	Partnering systems in use today
6.15c	Project partnering graphics
6.15d	Organizational partnering graphics
6.16	Team groupings for break out sessions
6.17	Mission, goals & objectives
6.18	Route of issue & dispute resolution
6.19 to 6.21	Sample charter, issue resolution & partnering evaluation
6.22	Partnering evaluation data sheet
6.23 & 6.23a	Problem mentions
6.24	Graphic objectives
6.25 to 6.27	Case study #2

Partnering Case study #1 - The World Wide Data Business

I. Client - Northern States Economic Data Systems (NSEDs)

NSEDs is a private business devoted to collecting, analyzing, and disseminating economic information for the business, government, and volunteer sectors in political geographic units worldwide.

The information they collect, process, and sell is primarily concerned with methods by which wealth, value, currency or other equivalents interact with the market places in which they are used as a medium of exchange.

The company maintains information collection and market operations from offices located in 25 cities world wide. The home office is in the community of Telitreck, North Dakota. Telitreck has a population of 120,500 people. Of these 1,500 work for NSEDs.

All data analysis is done at the home office and dispatched to the point of use electronically, and by mail, courier, or special messenger. 60 % of the dispatch volume is electronic.

The mission of the company is:

"To derive useful micro to macro global economic information from statistical data, and to provide this information to our clients in accurate, easily used, and highest value-added form."

The company is family founded, owned, and operated. Family members have been actively involved in the direction of the firm for 51 years.

II. Facility types

A. New office and data processing center building.

1. 200,000 square feet on three floors and a lower level.
2. Reinforced concrete frame.
3. Patterned masonry exterior skin and panelized curtain wall.
4. Full amenities for employees and visitors.

B. Remodel existing building after move in to new building.

1. Existing building.
 - a) 160,000 square feet on two floors and a lower level.
 - b) Structural steel frame with concrete floors
 - c) Plain face brick exterior skin. Good brick appearance. Punched windows.
 - d) Minimal amenities for employees and visitors
2. Remodeled building.
 - a) Each floor completely gutted and remodeled.
 - b) Add full amenities for employees and visitors compatible with new addition.
 - c) Exterior skin fully renovated, pointed, and cleaned.

C. Site work for new office and for remodeled building.

1. Construct new parking - 1050 cars.
2. Rebuild existing parking lot - 500 cars.
3. Construct new retention pond.
4. Construct new employee recreation area.

III. Those involved

- A. From NSEDS staff**
 - 1. Mr. Lindsay Dreyfuss - President and chief operating officer - NSEDS
 - 2. Vice president of operations
 - 3. Facilities manager
 - 4. Security manager
 - 5. Office manager
 - 6. Data processing manager
 - 7. Public relations manager
- B. From computer systems contractor staff - Datacomp, Inc.**
 - 1. Computer hardware project manager
 - 2. Computer software project manager
 - 3. Space designer
- C. From architect/engineers - Loring & Metzger**
 - 1. President and chief operating officer - architect
 - 2. Architectural designer - architect
 - 3. Project Manager - architect
 - 4. Field Inspector - architect
 - 5. Interior designer - interiors design
 - 6. Project Manager - structural
 - 7. Project Manager - mechanical and electrical
 - 8. Project Manager - civil engineer
- D. From testing agencies - Strendel - geotechnical, and Mechbal - balancing**
 - 1. Geotechnical - Vice president
 - 2. Geotechnical - Field and project engineer
 - 3. Mechanical balancing - Project engineer
- E. From general contractor - Tiltsen and Greene**
 - 1. President
 - 2. Vice president of operations
 - 3. Project manager
 - 4. Field superintendent
- F. From specialty contractors - Brown Mechanical and Powers Electric**
 - 1. President
 - 2. Estimator and project manager
 - 3. Field superintendent
- G. From fixtures, furniture, and equipment contractor - Efficiency Design, Inc.**
 - 1. President
 - 2. Project manager for design
 - 3. Project manager for installation
 - 4. Field superintendent

IV. Contract types

- A. Architect engineer - with NSEDS**
 - 1. Partially qualified - selected and negotiated from prequalified list prepared by NSEDS facilities manager.
 - 2. Authority limits - as limited agent.
 - 3. Payment method - Payroll costs x 2.75, plus expenses with cap.
 - 4. Single responsibility - in house and outside consultants

- B. General contractor - with NSEDS
 - 1. Partially qualified - selected and negotiated from prequalified list prepared by Mr. Dreyfuss and facilities manager.
 - 2. Authority limits - as contractor.
 - 3. Payment method - time and material with fixed fee and guaranteed maximum price - share in savings under gmp - 80 % to owner and 20% to contractor.
 - 4. Single responsibility - manage all subs to provide and install labor and materials for all building and site work.
- C. Computer system contractor - with NSEDS
 - 1. Partially qualified - selected and negotiated from prequalified list prepared by data processing manager.
 - 2. Authority limits - as contractor.
 - 3. Payment method - fixed cost.
 - 4. Single responsibility - provide all management, design, materials and equipment, and install all materials and equipment.
- D. Fixtures, furniture, and equipment contractor - with NSEDS
 - 1. Partially qualified - selected and negotiated from prequalified list by Mr. Dreyfuss.
 - 2. Authority limits - as contractor.
 - 3. Payment method - time and material with fixed fee and guaranteed maximum price - no share in savings
 - 4. Single responsibility - provide all management, design, materials and equipment, and install all materials and equipment.
- E. Testing agencies - with NSEDS
 - 1. Partially qualified - selected and negotiated from prequalified list prepared by architect/engineer and NSEDS facilities manager.
 - 2. Authority limits - as contractor.
 - 3. Payment method - time and material with fixed fee and guaranteed maximum price
 - 4. Single responsibility - provide all labor, materials, testing for building and site work.
- F. Specialty contractors - with general contractor
 - 1. Partially qualified - selected by competitive bids from prequalified list by general contractor.
 - 2. Authority limits - as contractor.
 - 3. Payment method - fixed price
 - 4. Single responsibility - provide and install labor and materials for building and site work according to purchase order from general contractor.
- V. Current status of project
 - A. Contract documents for new building complete.
 - B. General construction contracts for new building awarded.
 - C. Construction sub contracts for new building awarded.
 - D. Testing contracts awarded.
 - E. Remodeling for existing building in design development,
 - F. Construction consultant contract for existing building awarded to general contractor for new building - to be converted to guaranteed maximum construction contract as design proceeds.
 - G. Specialty sub contractors for new building in favored position for existing building remodeling, if they perform well on new building - this is well known by the subs

PARTNERING CHARTER WORK BOOK

Northern States Economic Data Systems Addition & Renovation Program

Date: Thursday, October 31, 1996

Location: Wisconsin Center
University of Wisconsin
Madison, Wisconsin

Time: 8:00 A. M. to 12:00 noon &
1:00 P. M. to 5:00 P. M.

Northern States Economic Data Systems
Addition & Renovation Program
Telitreck, North Dakota

WEX Partnering Team, Inc.
Construction Consultants

Participant notebook outline

Project: Northern States Economic Data Systems
Addition & Renovation Program

Location: Telitreck, North Dakota

Owner: Northern States Economic Data Systems (NSEDs)

General Contractor: Tiltson and Green

Architect/Engineer : Loring & Metzger.

Date of meeting: Thursday, October 31, 1996

Location of meeting: Wisconsin Center
University of Wisconsin
Madison, Wisconsin

Purpose of meeting:

To prepare and adopt a *partnering charter* for the guidance of the NSEDs project team.

Time of meeting

08:00 A. M. to 12:00 noon, and 01:00 to 05:00 P. M.

Definitions:

Major partnering terms are defined in glossary on pages 3 4, & 5.

Timetable:

- 08:00 to 10:15 A. M. Session #1
 - Brief introductory remarks on purpose of day by principals of owner, design team, and lead contractor.
 - Introduction of those attending.
 - Introduction to *charter* workshops - Ralph J. Stephenson
 - Break out sessions by teams. Possible team groupings include:
 - Owner/user
 - Designers of record

- Advisory professional service contractors
- General Contractor
- Earthwork and related contractors
- Structures and related contractors
- Mechanical and electrical contractors
- Systems and related contractors
- Owner's equipment contractors
- Others?

• Workshop #1 - Table discussion of the question "What actions do others take that create problems for us?" - See page 5 for examples.

• Workshop #2 - Table discussion of the question "What actions do we take that create problems for others?" - See page 5 for examples.

Workshops #1 & #2 comments are to be recorded on both flip charts and on transparencies.

• 10:15 to 10:30 A. M. Coffee break

• 10:30 A. M. to 12:00 noon Session #2

• Workshop #3 - Table discussion of the question "Considering your team's comments in Workshops #1 and #2, what can all of us do to help promote good relations and excellent performance on this specific project?" - See page 5 for examples.

Workshops #3 comments are to be recorded on both flip charts and on transparencies.

• Workshop #4 - Individual work on the question "In light of the results of Workshops #1, 2, and 3, what do I think my organization's mission is for this project?" See pages 5 and 6 for examples.

The mission should state in 25 words or less, *the single most important goal to achieve by being successful through my organization's efforts on this project.*

12:00 noon to 01:00 P. M. Lunch

• Mission task force work - From 12:45 to 1:15 P. M. selected individuals will meet apart from the main group and prepare a 25 word or less, first draft mission statement for the project. The draft mission statement will be derived from the individual mission statements prepared in workshop #4.

This project mission statement will be used as guide in writing the charter. It will, after editing, be incorporated into the final charter document.

01:00 P. M. to 02:30 P. M. Session #3

• Workshop #5 - Full partnering membership discuss, revise and accept the first draft

mission statement as revised.

This work is to be based on the project *mission* statement prepared by the *mission* task force.

• *Workshop #6 - Full partnering membership* discuss and answer the question "What specific project objectives can we now set considering the results of workshops #1, 2, 3, 4, and 5?"

These objectives should be designed to help insure excellent relations and performance for all concerned with the NSEDS expansion program. Workshops #5 and #6 are to run concurrently with the full group participating

02:15 P.M. to 2:30 P.M. Coffee

02:30 P.M. to 05:00 P.M. Session #4

- *Complete workshop #6 - Set project objectives.*
- *Give overview of partnering performance evaluation and issue resolution in relation to charter - Ralph J. Stephenson.*
- *Workshop #7 - Full partnering membership combine all previous discussions into a final charter ready for signatures.*
- *Print final draft of charter.*
- *Each participant sign charter.*
- *Adjourn to social hour.*

Definitions:

- *Alternative dispute resolution*

A method of resolving disputed construction claims outside the courtroom.

- *Full partnering membership*

The group consisting of the entire project team attending the partnering meeting.

- *Issue resolution*

A method of reaching agreement and closing out disputes at the originating management level, in the shortest possible time, and with the lowest potential for residual hard feelings.

- *Mission*

The single most important goal to achieve by being successful in the project organization's principal efforts.

- *Objectives*

Quantified targets derived from the established *mission* and goals.

- *Partnering - Associated General Contractors*

A way of achieving an optimum relationship between a customer and a supplier. A method of doing business in which a person's word is their bond, and where people accept responsibility for their actions.

Partnering is not a business contract, but a recognition that every business contract includes an implied covenant of good faith.

- *Partnering charter*

The basic manual for operating a partnering system. Contains, at a minimum, the *mission* statement of the project team, and their objectives for the project. Usually is signed by all those writing the document.

The charter is an agreement in principle and must not supersede or supplant the design and construction contracts in place or to be written.

- *Partnering*

A method of conducting business in the planning, design, and construction profession without unnecessary, excessive, or disruptive external party involvement.

- *Table discussion*

A discussion at a break out table where people with a common interest can review and recommend for presentation to a larger group of which they are a part.

- *Task force*

A temporary grouping of forces and resources designed to achieve a specific objective.

- *UDM*

Ultimate decision maker - the individual or group at the lowest management level that has the authority to make a final binding decision in any job related matter.

- *Workshop*

The meeting structure through which table or full partnering discussions are conducted. Usually participation is required of all attending.

Working guidelines:

- Workshops #1 and 2 - Examples of answers to the questions - "What actions do others take that create problems for us?", and "What actions do we take that create problems for others?" (sample responses from an actual charter meeting are given below.)

- Giving directions to proceed without a timely change order.
- Failing to establish clear chain of command.
- Lack of timely acceptance of work.
- Lack of timely responses

- Improper passing of general conditions responsibility to subs.
- Slow submittal turn around.
- Unreasonable punch lists.
- Failure to recognize impact of changes on ongoing work.
- Late submission of proposals.
- Failure to maintain clean efficient, safe working conditions.
- Untimely delivery of owner equipment.
- Slow payment.
- Resistance to solving problems perceived as contractor problems.
- Changes issued in incomplete form
- Slow owner response to concurrent reviews & changes.
- Pass through attitude by general contractor.

Workshop #3 - Example of responses to the question - "Considering your team's comments in Workshops #1 and #2, what can all of us do to help promote good relations and excellent performance on this specific project?" (below are listed some edited samples from an actual charter meeting)

- Maintain better communications.
- Exhibit less defensiveness/more openness.
- Resolve disputes fast.
- Don't take issues personally.
- Review requests for information & submittals before processing.
- Be willing to propose/suggest solutions.
- Prioritize submittals.
- Recognize owner's need to eventually occupy, operate and maintain the facility & systems.
- Recognize the importance of paper work.
- Allow necessary contract time for training.

Workshop #4 - Example of responses to the question - "In light of the results of Workshops #1, 2, and 3, what do I think my organization's mission is for this project?" (edited samples from an actual charter meeting)

- All involved parties agree to solve problems quickly and fairly so a quality product can be produced that is profitable, and functionally pleasing to all
- To build a quality project with the total commitment of all involved from owner to tradesperson, and finish the project with pride and satisfaction to all.
- To complete the project within budget, on time, to the quality standards desired by the owners. To develop a prequalified team that can be used on future projects.
- Our *mission* is to complete the project safely, on time, and within budget, working in a spirit of cooperativeness & respect for all parties involved.
- 4 C's - Cooperate, & Coordinate, & Communicate with team members to Complete a successful & profitable project.
- The *mission* of this group is to properly coordinate all construction to obtain the best building for the owner without causing undue hardships to those involved.
- We seek to work together as a team to produce a quality project on time, safely, and within budget, with a fair profit realized by all parties involved.
- We recognize the common goal to finish this project with the highest quality, on time, and within

budget, & agree to work together safely, as a team with trust and cooperation.

- Complete the project with the highest level of quality, on time, and within the budget so that all of the team members want to do the next project together.
- To provide a quality building within the budgeted time & cost - earning a fair profit & having fun doing it.
- To work in harmony with all team players to provide a project that everyone can be proud of.
- Work together as a team to build a quality building in a safe and cost effective way.
- To furnish to the owner a quality installed system in a timely manner, considering all people involved, at a profit.
- *Mission of this project*
 1. Profitable
 2. Fun
 3. Efficient
 4. Cooperative
 5. Quality
 6. Innovative
 7. Proud
- To have the customer delighted with the project at its completion.
- To achieve the highest quality building possible for the owner that satisfies their needs and objectives, within budget and schedule parameters.
- The cooperative, respectful and safe construction of a new facility exhibiting our pride of workmanship, participation and team work.

A working charter - courtesy of those noted

***Veteran's Administration Medical Center Replacement Hospital
Detroit, Michigan***

Mission statement

- We the undersigned recognize that we all have common objectives. We therefore agree to strive together to construct the Detroit VAMC safely, on time and within budget to the highest quality standards commensurate with its mission of serving veterans and the community.
- To achieve our mission we believe in the following principles
 - Commitment
 - Mutual trust
 - Integrity
 - Personal pride

Charter objectives

01. Maintain open lines of communications.
 - a. Recognize the need for quality information
 - b. Minimize submittal and response times in all matters
02. Keep paper and administrative work to a minimum.
03. Develop and implement an alternative conflict resolution system.

- a. Prompt resolution of conflicts at lowest possible level
 - b. Eliminate need for Contracting Officer decisions
 - c. Fair interpretation of ambiguities
 - d. Be proactive (not reactive) in problem solving
 - e. Maintain objective attitude toward constructibility and practicality
 - f. Accept responsibility for your actions or inactions
 - g. Have empathy in all matters
 - h. Clearly describe changes to contract work
04. Limit cost growth.
- a. Develop cost effective measures
05. Maintain clean, efficient, secure work site.
- a. No lost time due to accidents
 - b. Properly staff project
 - c. Be a good neighbor
06. Seek to maintain good job morale and attitudes.
- a. Promotion of partnering attitudes at all levels of contract administration
 - b. Have fun
 - c. Have pride in your product
07. Commit to quality control in all project related matters.
- a. Do it right the first time
 - b. Maintain proper work sequence
 - c. Meet design intent
 - d. Recognize owner's needs in occupation and operation of the facility
08. Close out job in proper and timely manner.
09. Maintain and implement a partnering evaluation system.

A. M. AGENDA

8:00 A. M. to 10:15 A. M. - Session #1

- Opening remarks
- Introductions
- Partnering overview
- Workshop #1 - Problems others cause us
- Workshop #2 - Problems we cause others

10:15 A. M. to 10:30 A. M. - Coffee break

10:30 A. M. to 12:00 noon - Session #2

- Workshop #3 - Improvement recommendations
- Workshop #4 - Individual definition of missions

12:00 noon to 1:00 P. M - Lunch

P. M. AGENDA

12:45 P. M. to 1:15 P. M.

- Task force prepare project mission statement

1:00 P. M. to 2:15 P. M. - Session #3

- Workshop #5 - Complete project mission statement
- Workshop #6 - Set project goals & objectives

2:15 P. M. to 2:30 P. M. - Coffee break

2:30 P. M. to 5:00 P. M. - Session #4

- Complete Workshop #6 - Set project goals & objectives
- Review principles of partnering performance evaluation
- Workshop #7 - Full group write project charter
- Print final draft of charter
- Participants sign charter
- Adjourn to social hour

PARTNERING - A. G. C.

A way of achieving an optimum relationship between a customer and a supplier. A method of doing business in which a person's word is their bond, and where people accept responsibility for their actions.

Partnering is not a business contract, but a recognition that every business contract includes an implied covenant of good faith.

PARTNERING

A method of conducting business in the planning, design, and construction profession without unnecessary, excessive, or disruptive external party involvement.

Partnering systems in use today

- Project partnering

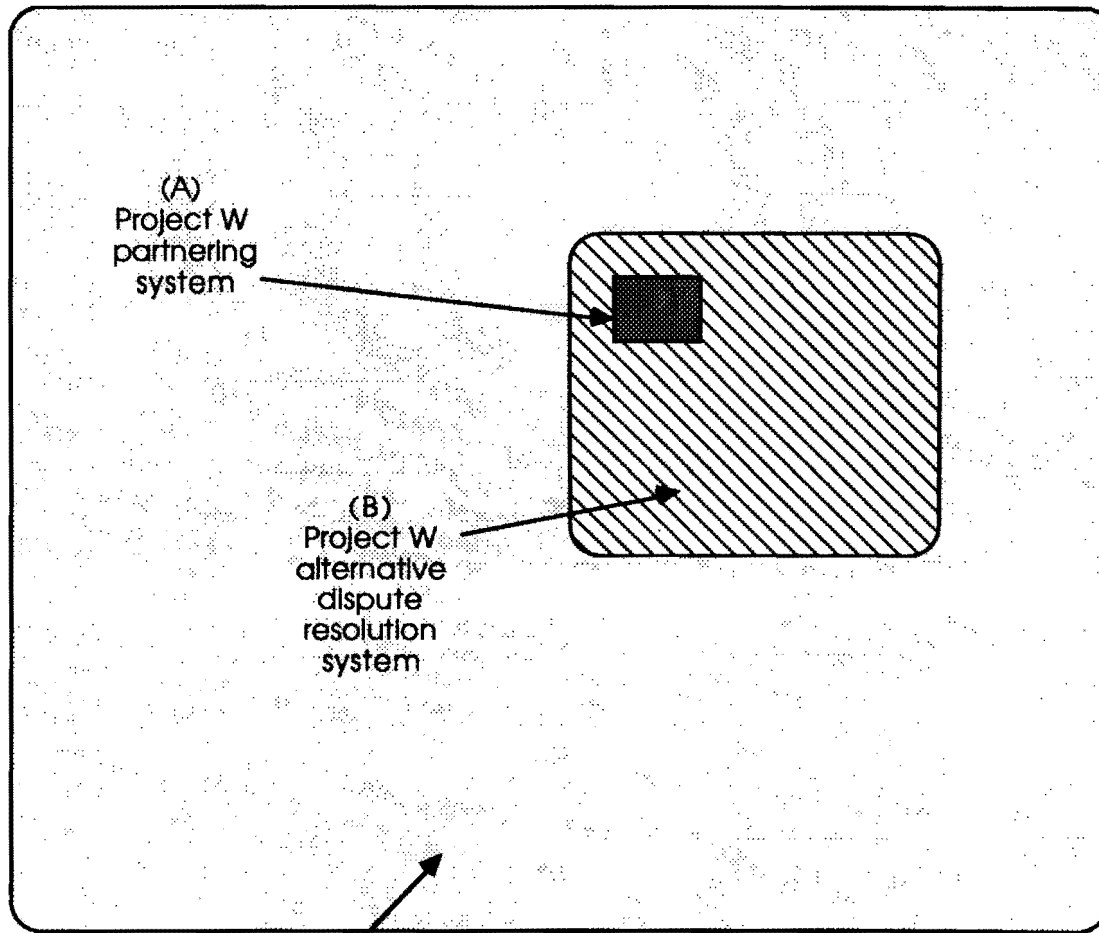
A method of conducting business in the planning, design, and construction profession without the need for unnecessary, excessive and/or debilitating external party involvement. Mainly used project-by-project, and tailored to specific job conditions. It addresses a moral agreement in non contract matters.

- Strategic partnering

A formal partnering relationship specifically designed to enhance the success of multi-project experiences on a long term basis. Just as each individual project partnering system must be maintained, strategic partnerships must also be maintained by periodic review of all projects currently being performed.

- Organizational partnering

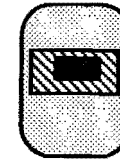
A system of internal relationships established when the spirit of project partnering is incorporated into the total operating mode of an organization. Organizational partnering, well done, is designed to improve the probability of short and long term operating success. Often organizational partnering is applied with little awareness of it being in use. Organizational partnering should be made an integral part of project and strategic partnering applications for it to add its full value to the organization.



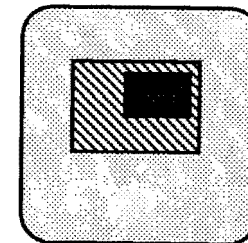
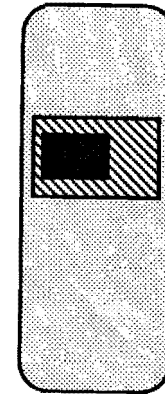
PROJECT
W

PROJECT
PARTNERING

PROJECT
Z

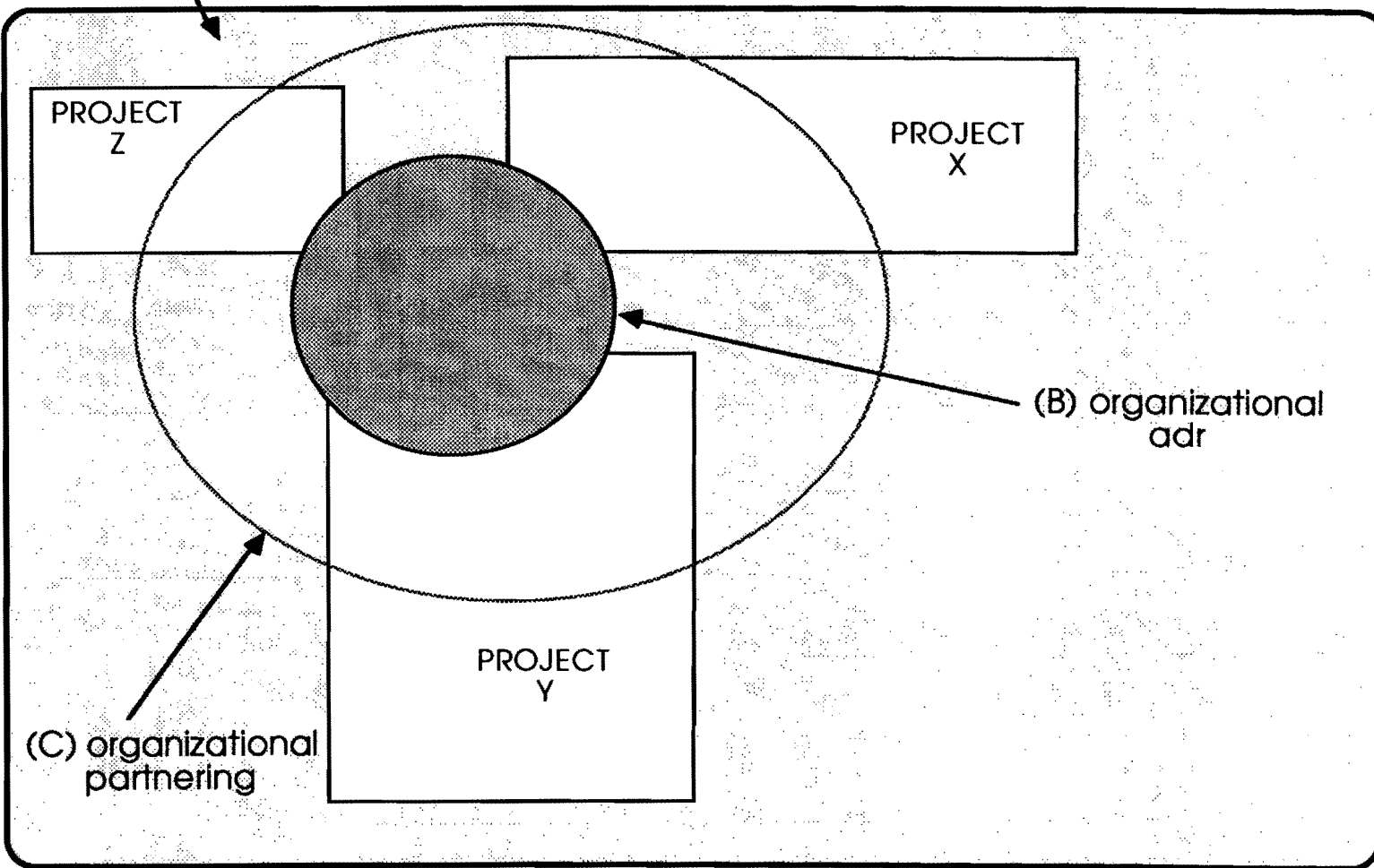


PROJECT
Y



PROJECT
X

(A) total organization



ORGANIZATIONAL
PARTNERING

6.15/9

Team groupings for break out sessions.

Those that have similar sets of interest relative to the performance of others on the project

- Owner/user.
- Designers of record.
- Advisory professional services contractors.
- General contractor.
- Earthwork & related contractors.
- Structures & related contractors.
- Mechanical & electrical contractors.
- Systems & related contractors.
- Owner's equipment contractors
- Others?

MISSION

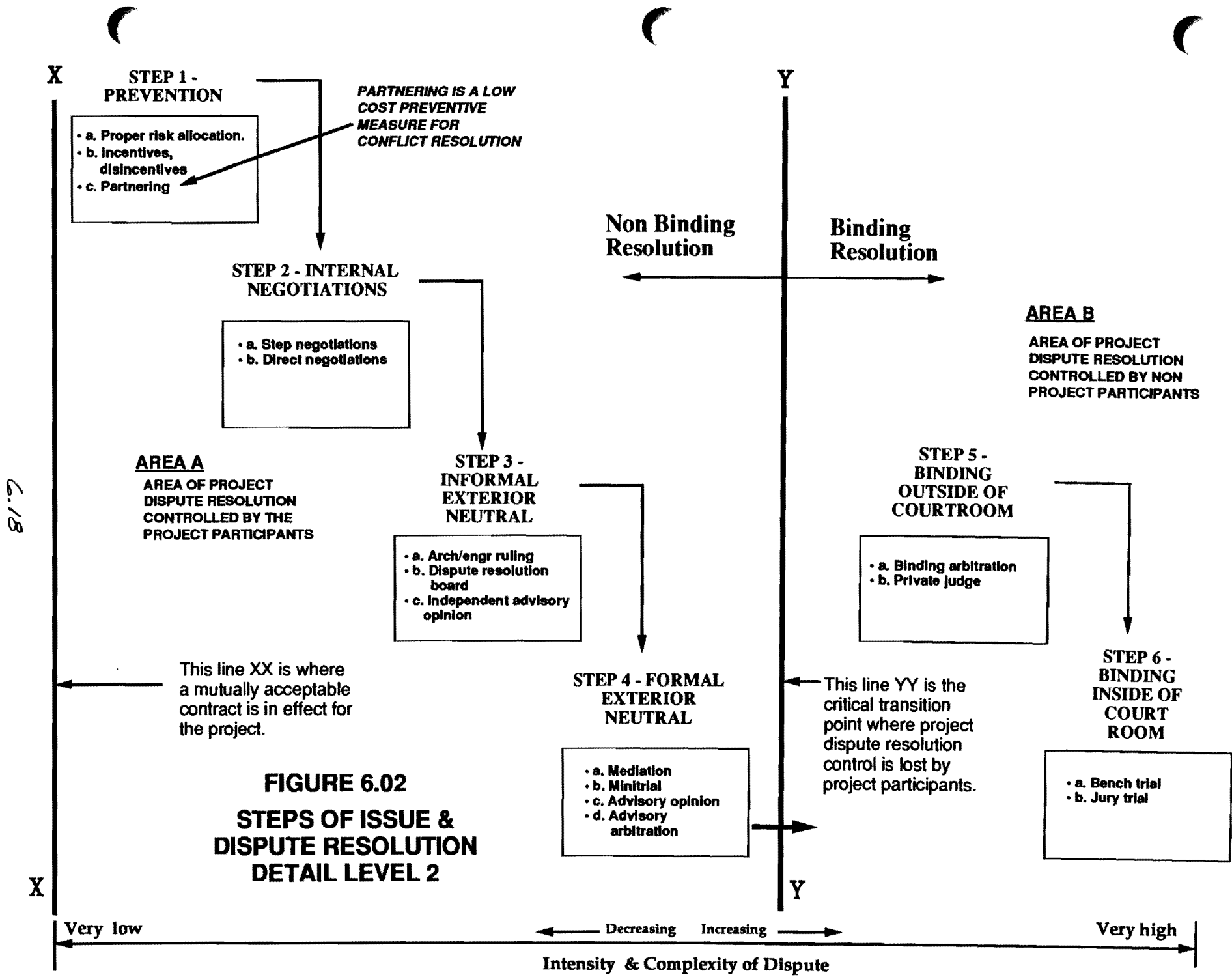
The most important result to be achieved by this project being successfully completed?

GOALS

Unquantified desires of individuals or organizations expressed without time or other resources assigned.

OBJECTIVES

Quantified targets derived from established goals.



Sample Charter

I. Charter for new Detroit, Michigan Post Office, Area P

A. Mission

This partnering team commits to deliver a quality project on time, within budget, safely, profitably for all, and of the intended quality, through mutual cooperation among the participants.

B. Objectives

1. Maintain a clean and well maintained work site
 - a) Experience no lost time from accidents.
 - b) Be a good neighbor.
 - c) Use good construction site housekeeping practices.
2. Effectively administer the project
 - a) Prepare & publish an acceptable payment procedure.
 - b) All parties submit complete, accurate & timely billings.
 - c) Prepare & publish an acceptable submittal processing procedure.
 - d) Treat each other fairly
3. Close out the project in a proper & timely fashion
 - a) Prepare & publish acceptable close out guidelines.
 - b) Establish clearly defined punch out procedures and standards early in the project.
4. Maintain effective lines of communication.
 - a) Recognize the need for quality information.
 - b) Minimize response times in all matters.
 - c) Maintain an appropriate level of documentation.
 - d) Be available.
5. Resolve problems effectively
 - a) Develop, approve, and implement a responsive conflict resolution system
 - b) Resolve disputes and conflicts at the originating level if at all possible.
 - c) Resolve disputes and conflicts as quickly as possible.
 - d) Eliminate the need for third party legal involvement
6. Limit cost growth
 - a) Maintain objective attitude toward constructability.
 - b) Develop cost effective measures to apply to all job related activities.
 - c) Recognize owner's needs in occupation and operation of project.
7. Maintain technical excellence in all program, design & construction work.
 - a) Owner abate promptly as required
 - b) Define and clearly communicate quality standards expected
 - c) Maintain constructability of the project.
 - d) Properly plan and schedule the work.
 - e) Do it right the first time.
8. Maintain good job morale & attitudes
 - a) Promote partnering attitudes at all levels of contract administration.
 - b) Have pride in your work.
 - c) Have fun.
9. Maintain partnering effectiveness
 - a) Prepare and publish a partnering effectiveness measurement system.
 - b) Meet on a scheduled, regular bases and formally evaluate the partnering effectiveness.
 - c) Take prompt steps to correct any deterioration of partnering effectiveness on the project.

II. Issue resolution

A. Policy

It is the objective of the Area P Post Office project team management to first and foremost avoid unnecessary disputes and conflict on the job. It is the intent to do this by achieving the objectives of the charter, particularly to resolve an issue promptly and at the level at which it originates. If this is not possible the issue will be referred promptly to the next highest level for resolution.

In all cases, individuals who are involved in a difference should be businesslike and not resort to personal attack. The principles outlined in the Partnering Charter mission and charter should be followed at all times in resolving differences.

Upon request, site meetings will be convened to discuss any unresolved issue and to attempt to reach resolution. Any issue presented should be clearly defined and alternative solutions suggested. The resolution process is to work through open communication and looking at the other side's point of view. In addition, issues are to be kept in the forefront to ensure resolution in a timely manner. A log of unresolved issues will be maintained from meeting to meeting.

if resolution cannot be reached at the job site, the principals of the involved firms or agencies should attempt to reach resolution through informal discussion before the formal process outlined in the contract documents is used.

In seeking resolution to an issue, involved parties will attempt to:

- Thoroughly understand the issues.
- Maintain empathy for the other point of view.
- Communicate thoughts openly and clearly.
- Clearly document the issue resolution.

B. Methodology

Goal - To encourage and provide a forum for resolution of issues at the lowest possible level, but to provide a mechanism to elevate the issue if needed.

If resolution is not achieved at the lowest level forum, the principals in the firms in conflict will attempt to reach resolution through informal discussion.

III. Partnering evaluation

Each objective in the Charter is to initially be given a par weight as indicated below. The par weight indicates how important the item is in relation to achieving the project mission. Weights are assigned from 1 to 5. A weight of 5 indicates that the objective is of critical importance in achieving the project mission. A weight of 1 indicates that the objective is of least importance when evaluated against the highest weighted objectives.

The weight of the objectives remains constant throughout the project. Therefore care must be taken in assigning them properly at the onset of the evaluation process.

The quality of the project performance in relation to the Partnering Charter objectives is to be measured once per month by representatives of all organizations participating in writing the Charter. Partnering performance quality ratings are to be from 1 to 5.

A quality rating of 1 indicates very poor performance and little adherence to the standards set out by the objective. A quality rating of 5 indicates high and excellent adherence to standards set by the objectives.

The total evaluation of the objective is the constant weight multiplied by the quality for each objective for each evaluation. The total partnering performance is measured at each evaluation.

Total partnering performance = total of the (objective weights x the objective quality) for the period.

Partnering evaluation for current period

1

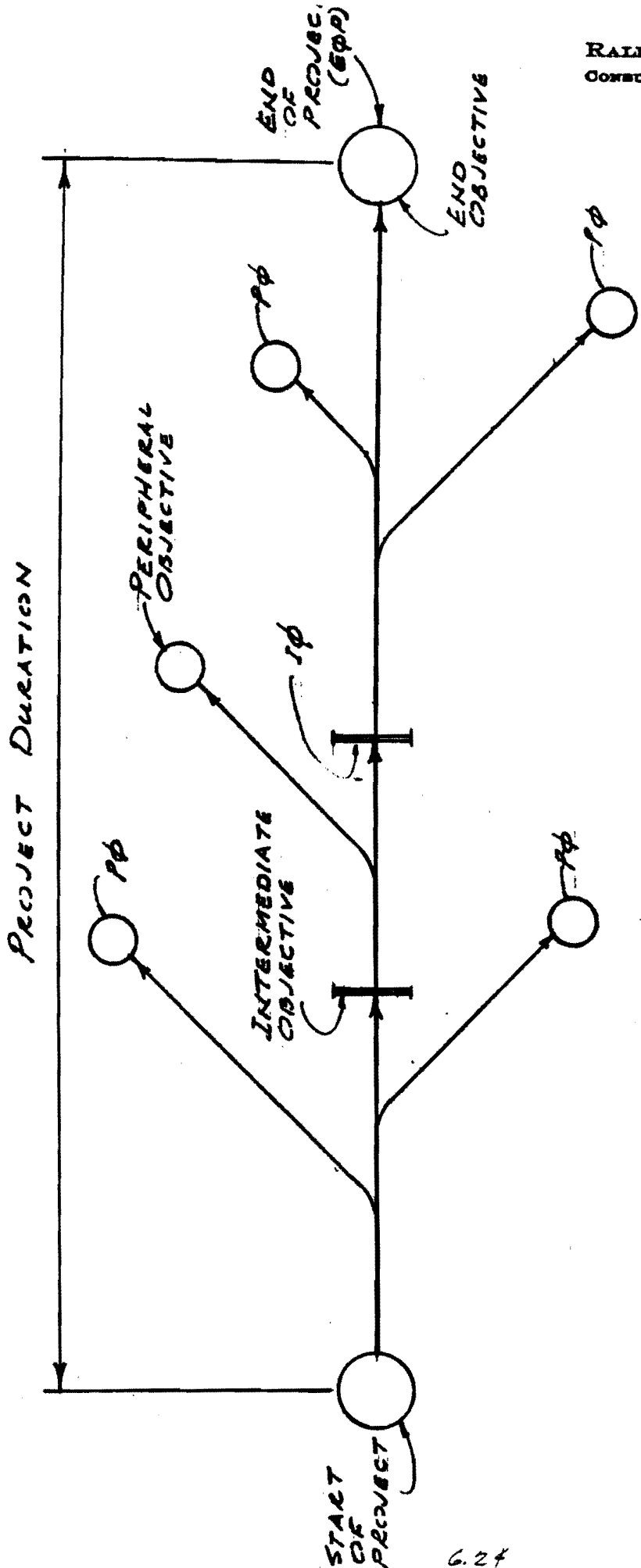
1 - objective	2 - par weight (w)	3 - par quality (q)	4 - par (w) x (q)	current quality	current (w) x (q)
01. Maintain a clean and well arranged work site	3.00	2.50	7.50	2.25	6.75
02. Effectively administer the project	4.50	3.75	16.88	3.50	15.75
03. Close out project in a proper and timely fashion	4.00	3.50	14.00	2.00	8.00
04. Maintain effective lines of communication	4.25	3.75	15.94	3.00	12.75
05. Resolve problems effectively	4.50	4.00	18.00	4.00	18.00
06. Limit cost growth	2.50	2.25	5.63	2.25	5.63
07. Maintain technical excellence in all program, design and construction work	3.50	3.00	10.50	3.25	11.38
08. Maintain good job morale and attitudes	2.50	2.25	5.63	2.00	5.00
09. Maintain partnering effectiveness	4.00	3.75	15.00	3.25	13.00
Average:	3.64	3.19	12.12	2.83	10.69

PROBLEM MENTIONS

**Total assignments of problem types from
2,855 responses to the questions, "What job
difficulties are caused by us and by others?"
Listed by frequency of mention.**

- 01. 1146 - Job management**
- 02. 0984 - Communicating with others**
- 03. 0684 - Staff morale and attitudes**
- 04. 0593 - Personnel quality and problems**
- 05. 0475 - Being a good on-site neighbor**
- 06. 0467 - Timely action**
- 07. 0396 - Planning and scheduling**
- 08. 0371 - Organization, authority, and responsibility**
- 09. 0288 - Work site conditions**
- 10. 0268 - Revision processing**
- 11. 0267 - Construction document quality**
- 12. 0233 - Program conditions**
- 13. 0205 - Submittal processing**
- 14. 0166 - Issue, conflict, and problem resolution**
- 15. 0166 - User group interaction**
- 16. 0145 - Equipment and material problems**
- 17. 0141 - Documents and documentation**
- 18. 0133 - Decision making**
- 19. 0125 - Procurement of materials and equipment**
- 20. 0116 - Project cost structure**
- 21. 0112 - Closing out the project**

22. 0097 - Contract interpretation
23. 0097 - Quality management
24. 0095 - Payment processing
25. 0092 - Paper and administrative work
26. 0090 - Approval processes
27. 0088 - Being a good off-site neighbor
28. 0073 - Time growth
29. 0070 - Policies and procedures
30. 0069 - Inspecting and testing
31. 0069 - Staffing and manpower
32. 0064 - Cost growth
33. 0058 - Substitutions and alternates
34. 0052 - Maintaining regular project evaluations
35. 0052 - Safety
36. 0049 - Regulatory agency matters
37. 0022 - Constructibility
38. 0022 - Training
39. 0022 - Value engineering
40. 0014 - Labor conditions
41. 0014 - Legal matters
42. 0011 - Backcharges
43. 0011 - Financial problems
44. 0010 - Weather conditions
45. 0005 - Warranty conditions



END, INTERMEDIATE & PERIPHERAL OBJECTIVES

WEX Partnering Case Study #2 - The Split Management Community College

I. Client - Dittler Community College - Dittler County, New Mexico

A predominately urban county in New Mexico, with an aggressive community education program funded locally with grant money furnished on a 60% county, 40% state basis.

The Department of Facilities of the State manages the project for the State. The facilities departments for the community colleges manage the project at the user level.

II. Facility type

A. New physical education, classroom, and book store building for Dittler Community College (DCC)

1. 115,000 square feet on one floor.
2. Olympic size indoor, outdoor swimming pool.
3. Handball and racket ball courts.
4. Full gymnasium.
5. 6 lane bowling alley
6. Classrooms
7. Book store to serve entire campus

B. Site work for new building

1. Construct new parking for 200 cars.
2. Construct 10 new lighted tennis courts.
3. Construct three new lighted softball diamonds.
4. Construct four new basketball semi courts for basket practice.

III. Those involved

A. From Dittler Community College staff

1. Vice President for Business
2. Facilities director
3. Book store manager
4. Department head for physical education

B. From State Department of Facilities staff

1. Director of new construction
2. Project manager
3. Field inspector

C. From architect/engineers - Antsward & Bolling

1. President and chief operating officer - architect
2. Architectural designer - architect
3. Project Manager - architect
4. Field Inspector - architect
5. Interior designer - interiors design
6. Project Manager - structural
7. Project Manager - mechanical and electrical
8. Project Manager - civil engineer

D. From testing agencies - Geologic, Inc. - testing and Balmoral - balancing

1. Geotechnical - Vice president
2. Geotechnical - Field and project engineer
3. Mechanical balancing - Project engineer

- E. From general contractor - Kretkowski, Inc.
 - 1. President
 - 2. Vice president of operations
 - 3. Project manager
 - 4. Field superintendent
- F. From specialty contractors - Weyand & Sons, Inc. - mechanical and Ranoldi Electrical, Inc. - electrical
 - 1. President
 - 2. Project manager
 - 3. Field superintendent
- G. From athletic equipment contractor - Stretch, Ltd.
 - 1. Project manager
 - 2. Field superintendent
- H. From swimming pool contractor - Bluewater Pools, Inc.
 - 1. Project manager
 - 2. Field superintendent
- IV. Contract types
 - A. Architect engineer - with DCC
 - 1. Partially qualified - selected and negotiated from prequalified list prepared by DCC and State.
 - 2. Authority limits - as contractor
 - 3. Payment method - Fixed fee including time and expenses
 - 4. Single responsibility - in house and outside consultants
 - B. Testing agencies - with general contractor
 - 1. Partially qualified - selected and negotiated from prequalified list prepared by State and architect/engineer.
 - 2. Authority limits - as contractor.
 - 3. Payment method - time and material with fixed fee and guaranteed maximum price
 - 4. Single responsibility - provide all labor, materials, testing for building and site work.
 - C. General contractor - with DCC
 - 1. Partially qualified - selected by competitive bids from prequalified list prepared by State and DCC.
 - 2. Authority limits - as contractor.
 - 3. Payment method - fixed price
 - 4. Single responsibility - manage all subs to provide and install labor and materials for building and site work.
 - D. Specialty contractors - with general contractor
 - 1. Partially qualified - selected by competitive bids from prequalified list prepared by general contractor.
 - 2. Authority limits - as contractor.
 - 3. Payment method - fixed price
 - 4. Single responsibility - provide and install labor and materials for building and site work according to purchase order from general contractor.
 - E. Athletic equipment contractor - with State
 - 1. Partially qualified - selected by competitive bids from prequalified list prepared by DCC.
 - 2. Authority limits - as contractor.

3. Payment method - fixed price
4. Single responsibility - manage all subs to provide labor, materials and equipment, and install materials & equipment for all athletic equipment.
- F. Swimming pool contractor - with State - to be assigned to general contractor
 1. Partially qualified - selected by competitive bids from prequalified list prepared by State.
 2. Authority limits - as contractor.
 3. Payment method - fixed price
 4. Single responsibility - manage all staff and subs to provide labor, materials and equipment, and install materials & equipment for swimming pool.
- V. Current status of project
 - A. Contract documents for new building and site work complete.
 - B. Construction contracts for new building and site work awarded.
 - C. Specialty contracts for new building and site work awarded
 - D. Testing contracts awarded.
 - E. Athletic equipment contract - Proposals received by State - successful contractor identified - contract to be executed in two weeks.
 - F. Swimming pool contract - Proposals received by State - successful contractor identified - contract to be executed in two weeks.

• *Section #7 - Reference material*

7.01 to 7.21	Definitions
7.22 & 7.23	Notes on forerunner & conservatively managed companies
7.24	Managerial leverage
7.25	Management by exception graphics
7.26 to 7.31	Retentions, collections & final payment
7.32 to 7.35	Record types & their uses
7.36	The iterative costing sequence
7.37 to 7.41	General steps taken in processing a claim
7.42 to 7.44	Bibliography
7.45 to 7.45h	Partnering charter objectives
7.46 & 7.47	Mind prober words

- **Definitions - ho 309**
 - **Project management definitions - ho 309 - d129**
 - **Ralph J. Stephenson PE**
 - **Definitions - project management**
 - **Definitions** - project management glossary
 - **Abatement**

The process of correcting a perceived and/or hazardous condition at a geographic location. For instance the removal of a hazardous spill of toxic chemicals.

The question of hazard or not, required correction or not, the appropriateness or not of the abatement action required is often in dispute.
 - **Acceleration**

Contract work performed in a time period shorter than that originally contemplated by the contract; or contract work performed on time when the contractor is entitled to an extension of time for his performance.
 - **Administration**

Those activities considered to be supportive of the ex'e'cutive operations in an organization. Administrative costs may be considered the cost of management.
 - **Administrative Settlement**

A resolution of a dispute through discussion between the disputing parties and agreement upon a mutually satisfactory settlement.
 - **Adversarial**

Taking the position of an opponent or enemy. Opposing one's interests or desires.
 - **Advisory Relations**

The interaction of parties related to each other by an obligation, either contractual or informal, where the service performed is of an advisory nature only.
 - **Agency Authority**

A relation in which one person or organization acts on behalf of another with the other person's or organization's formal authority.
 - **Agent**

A person or firm whose acts are asserted by the third party to bind the principal.
 - **Agreement - partially qualified**

An agreement made based on a moderately broad range of measuring values used somewhat consistently by the principal. The selection of an agent or contractor is normally made with some or full visible competition.
 - **Agreement - totally negotiated**

An agreement made based on a very broad range of measuring values applied as desired by the principal. The selection of an agent or contractor is usually made with very little visible competition.
 - **Agreement - totally qualified**

An agreement made based on very narrow range of measuring values, i.e. price, but used consistently by the principal. The selection of a agent or contractor is normally made with full visible competition.
 - **Alternative dispute resolution - adr**

In its generic form, is a method of resolving disputed construction claims outside the courtroom.

Includes systems of resolving disputes in planning, design and construction by cooperative, internal, or third party assistance methods that are alternatives to conventional dispute resolution methods currently in common use. Conventional methods are usually considered to be litigation and binding arbitration.

Alternative dispute resolution may make use of non traditional combinations of conventional dispute methods.

- **Apparent Authority**

A situation in which one person or organization acts on behalf of another person or organization without the other person's or organization's formal authority.

- **Arbitration**

A method for settling disputes whereby an officially designated third party (usually one to three people) hears and considers arguments and determines an equitable settlement. Usually considered binding upon the parties.

- **Assigned Contractual Relations**

The interconnection of those parties bound by subsequent assignment of a contract to other than the initial parties.

- **Audit - as applied to projects**

Inspect, analyze & evaluate project status, management and health against criteria established as a standard of performance for any give point in time. The audit encompasses such measurements as:

- Physical condition of project
- Project progress
- Procurement status relative to needs
- Project management techniques in use as reflected by project health
- Project team performance as reflected in project health
- Where appropriate, progress measured against expected money flow
- Resources allocation
- Status of interrelations between major parties to the project
- Trends in project progress
- Trends toward or away from claim prone status

Each auditing situation is unique and the scope of the audit should be determined as specially fits each individual project and project team. All, or a part of the above measurements might be used to make the audit.

Auditing usually is done through the following steps listed in rough order

- Make pre inspection review of measurement standards to be used
- Inspect project
- Discuss inspection observations & perceived project status with key project staff
- Evaluate current interrelation between procurement and field installation needs
- Identify areas of administrative (supportive) operational difficulty & strength

- Identify areas of line (ex'e'cutive) operational difficulty & strength
- Prepare monitoring documents from current network issues
- Evaluate need for project plan update
- Update current network models as may be appropriate or required
- Prepare & submit report of project audit

- **Authority**

The prerogatives, either vested or acquired over a long period of time, that allows an individual to carry out their responsibilities and duties. This includes the right to determine, adjudicate, or otherwise settle issues or disputes; the right to control, command, or determine.

- **Basic Contractual Relations**

The interconnection of those parties bound by the initial contract to perform in a certain manner for certain considerations to be paid.

- **Bench Trial**

A trial before a judge without the benefit of a jury.

- **Building Components**

The basic units into which most building construction projects can be divided. Usually the components represent distinct construction & construction related actions that have common characteristics.

- Front end work (few)

All non construction project related work concerning real estate, financing and pre construction leasing.

- Design work (des)

Project related work that concerns production and issuing of contract documents

- Procurement (pro)

Work related to solicitation of proposals, award of subcontracts, preparation of submittals, approval of submittals, and fabrication and delivery of materials & equipment to the job site.

- On site work (osi)

All project work outside the building line and inside the property or hoarding (contract boundary) line.

- Off site work (ofs)

All work outside the property or hoarding line that is included in the project contract scope of work.

- Substructure work (sbw)

All foundation work upon which the superstructure bears directly or indirectly. Also includes site preparation for start of field work on the building area.

- Superstructure work (ssw)

All major structural load carrying components that bear on the substructure directly or indirectly.

- Exterior skin (esk)

All elements required to close the building to weather.

- Interior rough work (irw)

All interior building components that can be exposed totally or in part to weather.

- Interior finish work (ifw)
All interior building components that must be protected totally or in part from weather.
- Unit systems work (usy)
All work that can be installed as a unit & is somewhat isolated during construction from other components of the building
- **Bulletin**
An official notice that a change is being considered and that it is desired that those affected parties to the contract provide an estimate of the cost of the proposed change. The bulletin is often given other names such as change estimate request, request for proposal, or proposed change notice.
- **Business Model**
A graphic depiction of the elements which make up a business entity. The model usually identifies premises, objectives, and implementation. It recognizes basic business functions, business activities and manager activities.
- **Cardinal Change**
A change that is outside the scope of the contract.
- **Change**
Any revisions to the contract documents that alter the scope of work agreed to.
- **Change Order**
An official notice that the changes specified in the change order are to be done. A properly executed change order is a revision to the scope of work and the contract documents.
- **Claim**
A demand for something as due; an assertion of a right or an alleged right. In construction generally a demand for something as due, or in which the demand is disputed.
- **Claim Avoidance**
A technique and procedure for generation of situations in which the demand for what is due as a result of a contract agreement is honored without formal dispute, or in which the dispute is settled by an administrative settlement.
- **Claim Potential**
The measure of potential that any project has to encounter disputes during its implementation.
- **Closed Shop**
A work area in which only union workers can be employed on the job.
- **Closed System**
A system in which there is no import or export of information or physical materials, and in which, therefore, there is no change of components.
- **Color coding**
 - Green - Activity on time - currently not past earliest possible finish date.
 - Orange - Activity on time - currently past earliest possible finish date, but will make or better scheduled or latest possible finish date.
 - Blue - Task behind - will not make scheduled or latest allowable finish date
 - Yellow - Task behind - currently past latest allowable finish date

- **Commitment**
The state of giving a tangible or intangible benefit in a trusting and honorable manner. The act of pledging oneself.
- **Conflict**
A state of disagreement and disharmony.
- **Construction Management**
A system of attempting to better manage the construction process by providing expert construction knowledge and resources throughout all phases of the project. The goal of the process is to make available to the participants, information best provided by an expert skilled in construction practices, so that when the project moves into the field the managers can provide the owner with the highest potential for project success.
- **Constructive Change**
An owner's action or inaction that has the same effect as a written directive.
- **Contested claim**
A demand or claim in which the demand is disputed.
- **Continuous**
Uninterrupted in time; without cessation.
- **Continuum**
A continuous or ongoing series of actions, normally uninterrupted.
- **Contract Document Matrix**
A two dimensional grid in which the rows contain action items for the various project components and the columns usually designate the geographic location of the item. At the intersection of a row and a column is inserted the designation of the contract document package in which the information is contained.
- **Contract Documents**
Usually considered to be the documents which provide the full definition of the scope of work for which the parties are legally responsible. Could include the agreement, the drawings, the specifications, instructions to bidders, addendum, and any other material included by mutual agreement and clearly identified as part of the contract.
- **Contractor**
The party, where there is a principal and a contractor, who agrees to the doing or not doing of some definite thing for a stipulated sum.
- **Control**
Maintaining firm, competent managerial direction of any given situation. Controlling leads to achievement. It is usually accomplished by the invisible use of leverage.
- **Critical Path Method**
A mathematical modeling technique which allows the user to establish ranges within which resources can or must be used.
- **Critical Transition Point**
The point in a project delivery system at which the responsibility and authority for the work passes from the supportive group to the ex'ecutive group.
- **Culture - business**
A way of doing business that has been generated by a group of human beings and is passed along from one business generation to another, generally by unstructured communication.

- **Cuts**
Excerpts from catalogs, drawings, or flyers that depict a configuration to be used in the construction process.
- **Daily Reports**
Daily technical reports about the project containing data on manpower, weather, major activities, equipment on job, and other job related statistical information. Usually the daily report form is preprinted and in loose leaf form.
- **Decision Table**
A tabular display of information depicting a defined situation which permits alternative courses of action to be evaluated by yes or no answers to explicit questions.
- **Decision Tree**
A graphic device showing alternate courses of action from beginning a given situation point. The decision tree is used to graphically show the impact of various possible decisions at any given point in the decision process. It can be quantified or unquantified.
- **Decision-To-Action Time Span**
The amount of time required from the point at which a decision is made to the point where the decision is implemented. In a management structure it is important to insure that the full span of time from decision to action is covered, from shortest to longest.
- **Defective or Deficient Contract Documents**
Contract documents which do not adequately portray the true scope of work to be done under the contract.
- **Delay**
A problem or situation beyond the control of the contractor, and not resulting from the fault or negligence of the contractor, which prevents him from proceeding with part or all of the work.
- **Deposition**
A written record of sworn testimony, made before a public officer for purposes of a court action. Usually the deposition is in the form of answers to questions posed by a lawyer. Depositions are used for the discovery of information, or as evidence at a trial.
- **Design/build**
A method of providing total design and construction services under one cost and liability umbrella. Usually a design/build contract is based on a scope of work performance specification prepared by the owner or user. The ultimate aim of the design and build system is to provide a single source management and liability for the total facility program.
- **Destructive conflict**
Animosity or disagreement which results in lowering the potential for an individual or organization to succeed.
- **Development**
A business operation in which the primary goal is to locate and produce profitable and marketable real estate assets.
- **Diary**
Similar to a log but dealing more with personal observations of the individual writing it relative to his feelings about the job and the people.

- **Differing Site Conditions**

Where actual site conditions differ materially from those indicated in the contract documents; or where unknown physical conditions at the site differ materially from those ordinarily expected to be encountered in work of the nature contemplated by the contract.

- **Directed Change**

A written or verbal change that falls within the scope of the contract. The owner has the responsibility of paying for the change.

- **Discrete**

Consisting of, or characterized by distinct or individual parts; discontinuous.

- **Dispute**

To engage in argument or discussion. To quarrel or fight about.

- **Dispute resolution board - drb**

A method of dispute resolution where project participants establish procedures, by contract, to proactively settle disputes as they arise during the course of the project.

drb's seek to anticipate problems and get the parties to resolve them before the problems harden into formal claims.

- **Document Control System**

A method of receiving, classifying, marketing, storing, and retrieving documents received and sent on a project.

- **Dysfunction - Organizational**

An organizational problem that hinders or prevents achieving objectives. May be temporary or permanent.

- **Early Finish (EF)**

The earliest possible date by which a task can finish in a network model if it has been started at its early start date.

- **Early Start (ES)**

The earliest possible date at which a task can begin in a network model if all tasks immediately preceding it have been completed by their early finish dates.

- **Education**

The teaching and learning process by which the principles of doing things are conveyed to the learner.

- **Effective**

Of a nature that achieves identifiable goals and objectives in accordance with an action plan, and achieves worthwhile peripheral goals through intermediate accomplishments.

- **Elapsed Duration**

The estimated or actual amount of calendar or clock time an activity requires to accomplish, considering all direct and indirect influences upon the task's activities. Includes temporary work delays and stoppage due to influencing actions on the task.

- **Enrichment**

Adding to the scope of work originally contracted for with the intent to avoid being charged or paying for the extra work. Often seen in as-noted remarks on submittals, or on inadequate identification of scope of work in a bulletin or change order.

- **Executive**

The executing arm of the organization closest to the flow of expense and income experienced in achieving the organization's prime objectives. Closely related to line operations.

- **Feedback Loop**

The loop of communication around a project through which information is conveyed to and through the various components of the project.

- **Field Order**

An official notice that the actions or changes described in the field order are to be done. The field order is usually issued only in emergency situations where the time between decision and action does not permit issuance of a bulletin followed by a change order. A method of payment is usually specified in the field order.

- **Free Enterprise System**

An economic system under which the means of production, distribution and exchange are in large measure privately owned and directed.

- **Functional - as related to management**

Designed or adapted to perform some specialized activity or duties, usually concerned with the continuous operation of the company.

- **Functional component**

A group designed or adapted to perform some specialized activity or duties, usually concerned with the continuous operation of the company.

- **Functional Operations**

Management and staff direction of the application of resources to accomplish each specialized activity. Usually defined as a department or division of the company. Usually concerned with continuous operations of the organization. Contrasts with project operations.

- **General Conditions**

The portion of the contract agreement that contains contractual-legal requirements for the work.

- **General Requirements**

The portion of the contract agreement that contains overall technical support specifications governing work on the job.

- **Generic Construction (G)**

The field of business practice that encompasses all phases of the construction industry, including programming, planning, designing, building, operating, and maintaining facilities. Described best as the full set of activities shown in the line of action. (See line of action.)

- **Goals**

The unquantified desires of an organization or individual expressed without time or other resources assigned. (See objectives for related definitions.)

- **Graphics Oriented Data Processing**

Data processing in which the majority of the information is entered or gained by the use of a joy stick, mouse or other control which gives direct hand related movement and entry onto a console screen.

- **Guaranteed Maximum Price (gmp)**

The price for a specified scope of work to be provided by a contractor that contractually binds his performance to a specified guaranteed maximum price.

Often the guaranteed maximum price is tied to a time and material performance with the price not to exceed the agreed upon maximum.

- **Hard Money**

A total price agreed to for the entire work, and to be paid in a mutually satisfactory schedule of payments.

- **Histogram**

A graph showing a quantity on the vertical axis measured against equal intervals of time shown on the horizontal axis. In construction, often a depiction of the resources required per day over a period of time.

- **Horizontal Growth (Integration)**

A management system that emphasizes diversifying by expanding existing functions by classes. For instance a design office could accomplish horizontal integration through dividing their operations into various kinds of projects such as commercial, institutional and industrial. These all use the same or similar functional disciplines but the organization is divided into separate groups that concentrate mainly on one of the three main building types.

- **Hygiene**

The elements in an organizational situation that are acceptable to an individual but do not necessarily motivate him. These same elements, if unacceptable to the individual, may act as negative influences.

- **Interfaces**

Points at which different but related activities exert direct influences upon each other. Interfaces are often the points where direct objective activities contact dependent objective activities. Poor management of interface situations usually causes problems and dysfunctions.

- **Isoquant Line**

A line drawn on a network model and connecting some or all equal date or resource points on the activities shown. The date isoquant line is the equivalent of a straight line in a time scaled bar chart.

- **Issue resolution**

A method of reaching agreement and closing out disputes and problems at the lowest possible management level, in the shortest possible time, and with the lowest potential for residual hard feelings.

- **Jury Trial**

A trial before a jury.

- **Late Finish (LF)**

The latest allowable date by which a task can be completed in a network model without forcing those tasks that follow past their latest allowable start dates.

- **Late Start (LS)**

The latest allowable date by which a task can be started in a network model without forcing those tasks that follow past their latest allowable starting dates.

- **Laundry list**

A list of items, usually at random, that are to be classified, rearranged and used to build specifically sequenced tabulations, network models, narrative schedules or other systems of which the items in the laundry list are a component.

- **Leverage**

The effective use of vested and earned authority to solve problems and achieve goals and objectives.

- **Life Cycle Cost**
The total cost of a system over its entire defined life.
- **Limited agent**
The individual or organization acting as an agent and authorized to do only what is specified or what is reasonable to believe the principal wants done. A contract can be used to define the amount of authority to be granted an agent.
- **Line Activities**
Those activities that are most closely identified with the flow of basic expense and income related to the prime objectives of an organization.
- **Line of Action**
A sequential statement of activities necessary to conceive, design, build and operate an environment. Related to the generic (G) construction process.
- **Litigation**
The process of contending in court, either as a plaintiff or a defendant.
- **Log**
A permanently bound, dated, hand written record of job related events that have occurred on a project. The log is usually in ink, and is maintained by an individual in responsible charge of the work with which the record deals.
- **Maladministration**
The interference of the owner in the right of the contractor to develop and enjoy the benefits of least cost performance.
- **Manage**
To define, assemble and direct the application of resources.
- **Management**
The act and manner of managing.
- **Management by Exception (MX)**
A measuring and monitoring system that sounds an alarm to the manager when problems have appeared or are about to appear, and remains silent when there are no problems. The system identifies the problem area, thus permitting the effective manager to manage the exception while leaving the smoothly running operations to continue running smoothly.
- **Managerial Grid**
A numerical grid which positions a manager in a matrix by defining his concern for people as compared to his concern for production. This grid has been highly developed by Blake and Mouton and is useful in establishing managerial systems that are desirable and needed.
- **Marketing**
The process of conceiving, formulating and implementing a process by which the ultimate service or product of an organization can be successfully sold.
- **Matrix**
A two or more dimensional display of related data.
- **Matrix Management**
A management technique that employs a multiple command system. Usually results in one employee having two or more bosses on a time to time basis.
- **Mediation**
An attempt to effect a settlement between disputing parties through the unbiased efforts of an objective third party, usually well known to those in dispute and acceptable to them. Mediation differs from arbitration in that it generally involves a single individual as the ruling party, is less formal, and is generally not binding.

(This definition of mediation varies with the degree of legal significance attached the resolution of disputes, and the dispute location.)

- **Merit Shop**

A work area in which the workers may be either union or not, and in which there are no major jurisdictional boundaries governing assignment of work.

- **Mintrial**

A private process where opposing parties present condensed versions of their cases, both to designated executive representatives, and to an impartial advisor, and then negotiate.

The executives hear both sides, thus gaining a first hand perspective of the parties positions. The impartial advisor then points out possible outcomes and helps the parties to settle, if possible. Mintrials provide a structure to negotiate and ground rules to facilitate settlement.

- **Mission**

A statement of the most important result to be achieved by the project being successfully completed.

- **Money Flow**

The flow of income and expense measured against time.

- **Monitoring**

Measurement of current project conditions and position against the standards of performance set for the job.

- **Motivation**

The elements of a given situation that encourage and make effective, successful and meaningful, the activities of those engaged in the situation.

- **Must list**

Those items that must be included in the scope of work to make the project a go. If any of the items in the must list are not able to be included the project is a no-go.

- **Network**

A system of interconnected, interacting components. Usually a part of an open system.

- **Network Plan**

A graphic statement of the action standard of performance to be used in achieving project objectives.

- **Network Planning**

A graphic technique of showing necessary and desired actions needed to achieve end, intermediate and peripheral objectives.

- **Objectives**

Quantified targets derived from established goals (see goals). The most commonly used resources in converting goals to objectives are money, time, human abilities, human actions, equipment, and space.

- **Objectives - Dependent**

Objectives to be achieved that are affected by major influences beyond the manager's direct control. The dependent goal may be predictable or unpredictable.

Dependent goals, while usually beyond the manager's control, may well be within the company's ability to reach. Lack of correlation between company and

individual effort to achieve a manager's goals that are affected by others, may cause severe dysfunctions.

- **Objectives - Direct**

Objectives that can be achieved by managing conditions within the manager's direct influence.

- **Objectives - End**

Objectives realized from and upon total completion of the defined project work.

- **Objectives - Intermediate**

Objectives achieved at specific and identifiable stages of the project, i.e. partial occupancy of a building, turnover of a mechanical system for temporary heat, or completion and issuance of foundation plans for early start of construction.

- **Objectives - Peripheral**

Objectives realized on an ongoing basis through the life of the project and achieved as an indirect result of project activities. Peripheral objectives may be personal, professional, technical, financial or social. Peripheral objectives might include staff promotion, profitable subcontractor operations, specialized experience, or achievement of design excellence in a special field.

- **Ongoing Organization**

The arrangement and interrelationships of people charged with providing supportive action on an ongoing basis within the company. Examples of functions contained within the ongoing design or construction organization are estimating, administration, legal, marketing, sales, purchasing, and accounting.

- **Open Shop**

A work area in which both union and non union workers can be employed on similar tasks.

- **Open system**

A system which exchanges energy, information and physical components with its environments.

- **Organization**

The arrangement of resources (talent, skill, money, time, space, people, et al) that has evolved, or been selected, to accomplish the functions, activities, and management, and goals and achieve the objectives of a business or institution.

- **Organizational Structure**

The categories of parties to the planning/design/construction/operation process and how they are organized for the work. The organizational structure is shown by a set of relations between the parties that identifies the responsibility and authority lines along which the project is to be implemented.

- **Owner Furnished Items**

Those items furnished by the owner according to the contract documents.

- **Partnering - Associated General Contractors**

A way of achieving an optimum relationship between a customer and a supplier. A method of doing business in which a person's word is their bond, and where people accept responsibility for their actions.

Partnering is not a business contract, but a recognition that every business contract includes an implied covenant of good faith.

- **Partnering - Construction Industry Institute**

A long term commitment between two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each

participant's resources.

This requires changing traditional relationships to a shared culture without regard to organizational boundaries. The relationship is based upon trust, dedication to common goals, and an understanding of each other's individual expectations and values. Expected benefits include improved efficiency and cost effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services.

- **Partnering - suggested base statement**

A method of conducting business in the planning, design, and construction profession without the need for unnecessary, excessive and/or debilitating external party involvement.

- **Partnering charter**

The basic manual for operating a partnering system. Contains at a minimum, the mission of the project team, and their objectives for the project. Usually is signed by those writing the document.

The charter is an agreement in principle and must not supersede or supplant the design and construction contracts in place or to be written.

- **Peer Review**

A partial or full audit evaluation of the project done by objectively based individuals or organizations outside those owning, designing, building or operating the facility.

- **Percentage Fee**

A fee determined ultimately by a percentage of project cost, all as specified by the contract.

- **Planning**

Establishing and arranging necessary and desired actions leading to end, intermediate and peripheral objectives.

- **Positive conflict**

Hostility that is managed so that its resolution raises the potential for individuals or organizations to succeed at being excellent.

- **Prime Contractor**

A contractor whose business agreement is directly with the organization providing primary financing for the project.

- **Principal**

A person who authorizes another to act as his agent, or a person primarily liable for an obligation.

- **Pro Forma - In real estate development**

A financial model unusually built early in a construction program to show by projecting income and expenses, how the money flow to and from the project will occur. It is often used to establish the capital amount to be allocated to a project based on simulated operating conditions. The term pro forma means according to form.

- **Problem**

A deviation from an accepted and/or approved standard of performance.

- **Profiling**

The preparation and use of a selective, flexible and tailored systems of screening projects for potential participation.

- **Profit - Educational & Training**
Fulfillment of learning and teaching goals held by individuals and their companies.
- **Profit - Financial**
Fundamentally, the difference between organizational cash income and organizational cash expense. Further definitions of financial profit are complex and often unique to an organization or project.
- **Profit - Self Actualization**
Personal fulfillment realized after basic needs of shelter, safety, protection, love and freedom from hunger are achieved.
- **Profit - Socio Economic**
Company, group or individual achievement of social objectives within a financially profitable set of activities.
- **Profit - Value System**
Company and project fulfillment of personal, professional, technical, social and financial values held important by individuals and groups related to the company.
- **Program - as defining a step in the design process**
A narrative oriented statement of the needs and character of the proposed user operation, the requirements of the user and owner, the nature of the environment to be planned, designed and built, and the corresponding characteristics of the space that will satisfy these needs and requirements. Sometimes called the brief.
- **Program - as defining a total environmental effort**
A major environmental construction effort made up of several projects
- **Project - as a set of work actions**
A set of work actions having identifiable objectives, and a beginning and an end.
- **Project - as related to management**
A specific management assignment to achieve a set of objectives by accomplishing a group of related, discrete operations which have a defined beginning & end.
- **Project component - as related to management**
Project component - as related to management
A group established to achieve a set of objectives by accomplishing a set of related, discrete operations which have a defined beginning & end.
- **Project Delivery System**
A method of assembling, grouping, organizing & managing project resources so as to best achieve project goals & objectives.
- **Project Director**
The individual responsible for implementation of several projects upon which his company is engaged.
- **Project History**
A tabulation of the major events on the job, chronologically arranged for easy reference. Subjects included in the history should be:
 - The plan or schedule governing the sub period of the history.
 - A brief recap of the major activities having an impact on the job.
 - A reference to the documents in which the activities referred to are shown in detail.

- A summary of important job related conferences.
- Notes regarding points that may help resolve potential problems.
- Problems impacting on the job including reasons why the problems prevented proper progress.

The purpose of the project history is to give a quick, accurate look at past job events in a glance. The degree of detail is dictated by the potential for trouble that exists.

- **Project Manager**

One who helps establish objectives generated by a need, plans how these objectives are to be reached through a set of work actions, and then assembles and directs the application of available resources to achieve the objectives on one or more projects.

Usually the project manager is most concerned with supportive actions which bring resources to the point of effective use.

- **Project Operations**

Management and staff direction of resources to accomplish overall project activities. Contrasts with functional operations.

- **Project Organization**

The arrangement and interrelations of people charged with actually achieving project objectives. (See organizational structure.)

- **Project Schedule Report**

A narrative listing of network activities and the corresponding data re each action. The project schedule report is normally developed in a data base format from which selective reports and arrays can be prepared.

- **Project Stages**

The groupings of actions that make up the entire project work sequence.

- **Project Superintendent**

The manager involved in the actual construction process and most directly responsible for the expenditure of funds to carry out the project. Usually the superintendent is responsible for field execution of the work.

- **Question - Closed**

Questions that can be answered with a yes or no, or with a simple statement of fact.

- **Question - Direct**

Asked with strong indication as to who or whom should answer.

- **Question - Open**

Questions that cannot be answered with a yes or no, or a simple statement of fact.

- **Question - Overhead**

Asked of a group without indication as to who or whom is to answer.

- **Question - Relay**

Passed along to someone else by the party originally asked.

- **Question - Reverse**

Returned to the questioner by rephrasing or rewording the original question.

- **Record**

Any retained information that can be effectively used in the future.

- **Relations - Formal Functional**

Organizational connections that concern distribution and use of data, information and decisions that flow along formally defined transmission lines. Formal functional communications are usually written and are normally both from and to individuals and groups.

Formal relations are precisely defined and most day to day business is accomplished within the formal relation framework. The line expressing a formal functional relation usually has an arrowhead at each end to show a mutual exchange of responsibility and authority. If there is a higher authority to be implied a single arrowhead can be used pointing to the superior party.

- **Relations - Informal**

The natural channels along which organizationally related material is most easily and comfortably transmitted. The informal relation exists by mutual consent of the parties to the relation, and is stimulated to maximum effectiveness by a mutual profit gained from the relation.

Little, if any, authority normally is expressed in informal relations. Communications are usually oral and one to one. Often informal relations define the hidden organization structure. A line defining an informal relation is usually shown dotted with an arrowhead at each end.

- **Relations - Reporting**

The official channels through which each individual conveys, or is given raises, appraisals and evaluations; is fired, assigned or is provided professional, vocational and personal identity in the organization. The true organizational superior of an employee is usually that individual with whom he maintains a reporting relation. The line expressing reporting relations has an arrowhead at one end pointing to the superior.

- **Relations - Staff**

The business patterns through which a person or group provides consulting services necessary to achieve goals and objectives. Staff personnel usually have little or no authority over those outside the staff group. The line expressing staff relations has an arrowhead at each end.

- **Relations - Temporary**

Those relations created when extraordinary or unusual management demands must be met. The temporary relation is usually unstable and should be kept active for only short periods of time. The line expressing a temporary relation can have an arrowhead at one or both ends depending on the nature of the relations.

Extensive use of temporary relations creates business dysfunctions, breaks down morale and causes internal tensions.

- **Resolution**

A course of action determined or decided upon that can result in clearing conflict or dispute.

- **Resolve**

To find and implement a solution to a problem, a dysfunction or an issue of conflict.

- **Resource Allocation**
The assignment of project resources such as money, time, space, people and equipment to activities that must be done to achieve project objectives. Usually resource allocation is done to achieve effectiveness in project work measures such as profitability, timely completion and quality of work.
- **Resource Leveling**
The use of resource allocation to even out the use of resources within a given set of time, money, space, people or equipment conditions. Resource leveling is a special form of resource allocation with its prime use being to maintain a nearly equal assignment of resources to activities and projects for their entire duration.
- **Resources**
The tools of the supportive and ex'e'cutive manager. Resources include time, talent, tools, equipment, time, money, experience, space, materials, as well as intangibles, such as enthusiasm, morale and leverage.
- **Responsibility**
The assignment, spoken or understood, that a person in an organization has as his part in maintaining the organization's health and vitality.
- **Risk (risk)**
Any exposure to the possibility of harm, danger, loss or damage to people, property, or other interest. To expose to a chance of loss or damage.
- **Schedule**
A graphic or written tabulation of project activities showing where the activities are to start and finish. The schedule is derived from the plan of action and the network model by locking the tasks and the resources they require into a specific time position.
- **Selling**
Establishing and implementing the strategy of achieving the objectives of the marketing plan. The physical process of closing the negotiation for services and products for a consideration.
- **Shop Drawing**
A submittal in the form of a drawing, usually made specially for the application shown. Shop drawings usually show details of fabrication and installation.
- **Situational Thinking**
The ability to accurately evaluate a set of project influences by mentally moving from a long overview (macro) of them to a detailed picture (micro) and back, and being able to stop anywhere in between to consider other scale pictures of these influences and their relationships.
- **Span of Control**
The number of organizationally related individuals a manager directly controls on a one to one basis.
- **Specialized Construction (S)**
The field of business practice that encompasses single phases of the construction profession. Examples of "S" construction organizations are architectural/engineering offices, mechanical contractors, plastering contractors, and planning consultants, among others. Includes nearly any single organizational unit active in design, planning, construction or related fields.

- **Specification**
A narrative description of the various materials and systems to be incorporated in the work. The specification concentrates on identifying quality of materials, source of materials, allowable practices, and general requirements and conditions of the contract performance.
- **Staff**
A supportive unit of any organization in which the basic function is usually advisory in nature. Staff functions are occasionally defined as overhead or non production. They are considered to be the organizational partner of line operations. (See staff relations and line activities.)
- **Standard of Performance**
A well defined, explicitly stated, approved and accepted statement of the measurements to be used as a gage of performance, and goal and objective achievement.
- **Sub Contractor**
A contractor whose business agreement is directly with a prime contractor
- **Submittal**
Any document submitted by contracting parties to the owner's agents for review for accuracy, responsibility of design, general arrangement, and approval. Submittals are used by the fabricator and the installer to show adequate details so the intent of the contract documents can be achieved. There is a mild ongoing professional controversy as to whether approved submittals are contract documents. Generally they are not considered contract documents, but aids to better fabrication and installation procedures.
- **Sum zero**
A situation in which there is a winner and a loser. The loser often will lose what the winner wins.
- **Superior Knowledge**
The owner's withholding specific data on matters of substance not known to contracting parties during the pre contract period.
- **Supportive**
The administrative group of the project organization which is responsible for bringing resources to the point of use by the ex'e'cutive project group.
- **Suspension**
An owner's or owner's agent action of stopping all or a part of the work.
- **System**
An assemblage or combination of things or parts forming a complex or unitary whole.
- **Talent**
A capacity for achieving identifiable success. Usually talent is considered an abstract resource.
- **Termination**
The dismissal of a contractor, from a project, for convenience, resulting from factors beyond the contractor's control, or for default when the contractor's performance is not acceptable.
- **Text Oriented Data Processing**
Data processing in which the majority of information is entered or gained by the use of a key operated control panel such as a keyboard. The signals are usually entered in discrete elements.

- **Third Party**
A party to a contract or agency agreement other than the principal or agent.

Also refers to an individual or group that is not primarily engaged in facilities programming, design, construction, or operations.
- **Time and Material Contract**
An agreement in which payment for services and material is made only for those services and materials actually furnished. There may, or may not, be imposed a not-to-exceed amount on the total cost.
- **Total Float (TF)**
The amount of discretionary time available to a task. The total float is the difference between the early and late starts or finishes. Formally, it is defined as the duration of the task, subtracted from the difference between the late finish (LF) and the early start (ES): i.e. $(LF-ES)-DURATION=TF$.
- **Total quality management (TQM)***
The managing process which helps insure that the quality of all components, and of the final product in the planning, design and construction of any facility is maintained at a level which meets the client's program performance requirements.
- **Traditional**
Pertaining to those qualities of an organization, civilization or other culture that are handed down from generation to generation. Usually the transfer is by word of mouth or by practice.
- **Training**
The teaching and learning process by which specific, explicit methods and systems of doing something, usually by rote, are conveyed to the learner.
- **Translation**
Recasting standard of performance information and data into graphic, narrative, mental, oral or other forms, to insure optimum use by those involved.
- **Trust**
Reliance on an organizational or individual or integrity, justice, fairness, good judgment, and other relational qualities that give confidence in the performance of the duties demanded of the organization or the individual.
- **Turnaround Time**
The amount of time required to process submittals.
- **Turnover Cycle**
In the construction or fabrication of several similar units, the amount of time required from the completion of one unit to the completion of the succeeding unit.
- **Ultimate Decision Maker (UDM)**
The individual or group at the lowest management level that has the authority to make a final binding decision in any job related matter.
- **Unilateral Meetings**
A decision meeting at which only a portion of the parties affected are invited to participate.
- **Union Shop**
A geographic work area in which all labor classified participants are required to belong to a specified union.

- **Updating**
The process of revising and reissuing a project network model to bring it into conformance with a current desired and necessary plan of action. Updating often, but not always, results from monitoring and evaluating the project. Usually the updating is done when it is found that the current plan of work does not adequately depict the actual conditions under which the project is being executed.
- **Upset Price**
A guaranteed maximum price agreed to in a time and material contract. (See time and material contract.)
- **Value**
The increase in worth of an open system to which an item of value has been added. Often multiplied by the weight of a factor to give the weight & value rating of a factor to help determine a choice of alternatives.
- **Value added**
The improvement in the worth of anything that results from the efforts, contribution and involvement of specific people, processes, materials and ideas.
- **Vertical Growth (Integration)**
A management system that encourages diversifying by adding new functions to existing functions. New functions added usually bear an organizational relation to the existing. An example of vertical integration is incorporating real estate control, building design, financing, construction, leasing and asset management into a single development operation.
- **Vested Authority**
The endowing of privileges, strength and leverage from a superior, usually to a subordinate. Generally gained quickly, rather than being earned by long and proven service in a related field within the organization.
- **Want list**
Those items that are wanted and can be included in the scope of work, over and above the must list items, since they provide a definable and acceptable rate of return on their cost.
- **Weight**
The relative importance of a factor being used to help evaluate a choice. The importance is frequently measured by a numeric scale from 1 to 10, in which a very high positive influence is indicated by a rating of 10. A very low influence is indicated by a rating of 01.

Degrees of importance between the highest and the lowest are indicated by number ratings from 02 through 09. The weight of a factor multiplied by the value added by the decision choice being considered gives a weight & value rating of a factor to help determine a choice of alternatives.
- **Win - win**
A situation in which there are no losers. Usually some parties win more than other parties win.
- **Wish list**
Those items that the owner and the user wish they could include but might not be able to due to budgetary or other reasons. Wish list items are best added, not deleted, as the project moves into construction.

- **Working Drawings**

The set of contract drawings that pictorially show the intended appearance of a job when complete.

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Notes on Forerunner & Conservatively Managed Companies

- What are alternative names to forerunner and conservatively managed companies? Proactive & reactive, positive & negative, front & back, do & wait, high risk & low risk, maximum & minimum, go & no go, try & no try, run & walk.
- The forerunner managed company tries to optimize the probability of being right.
- The conservatively managed company tries to minimize the probability of being wrong.
- It is critical to understand that both types of companies can be, and often are successful or unsuccessful. The style of forerunner or conservative is merely an indication of the way the organization achieves success or goes through the twinges of failure.
- Some characteristics of the forerunner vs the conservative company are:

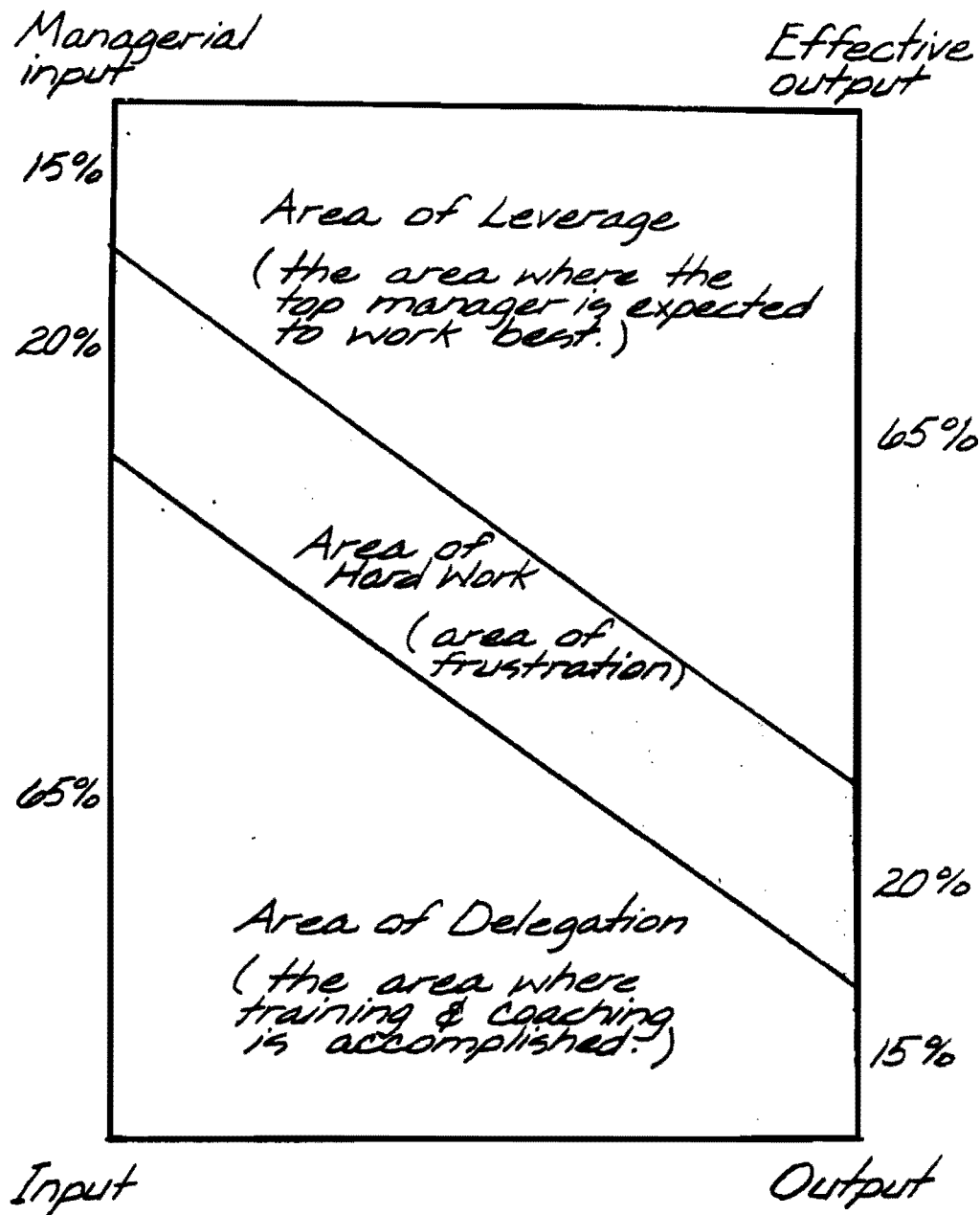
Forerunner

- Aggressive in their field of work
- Young
- High risk takers
- High leveraging of all resources
- Good morale
- General absence of recognizable management structure
- Healthy cooperation among lower management
- Strong competitive drive at all levels of management
- Strong sensing (not necessarily knowledge) of total purpose about
 - Financial return on investment
 - Social obligation
 - Professional integrity
 - Technical excellence
 - Ethical behavior
- Provision of sense of worth to projects
- Provision of sense of exciting flux to staff
- Maintenance of an exciting environment
- Constant forging ahead in their business arena

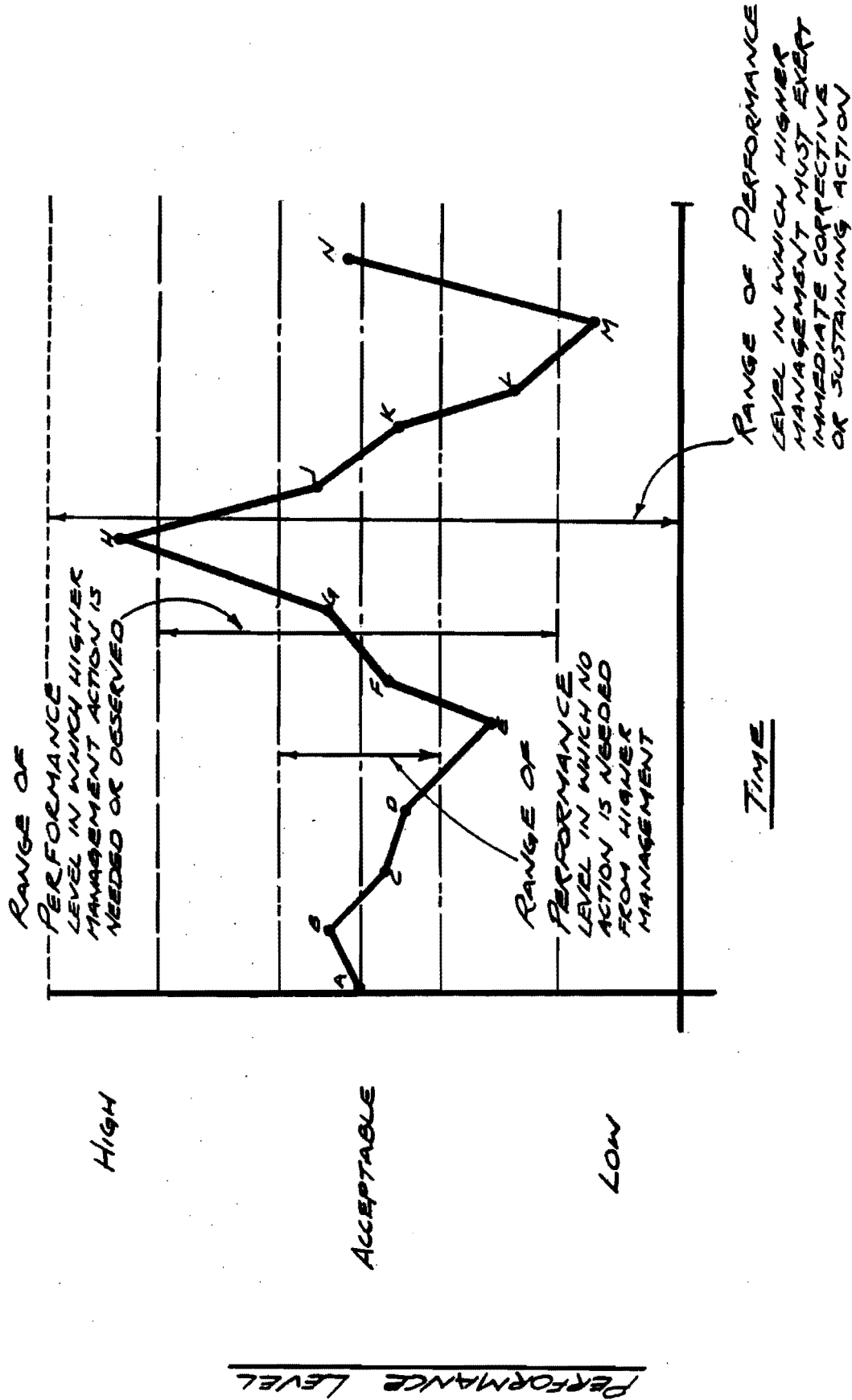
- Desire & ability to adapt to positive change
- Desire & ability to institute change
- Desire & ability to accommodate change
- Medium to low levels of incompetence tolerance
- Strong leaning toward high individual performance levels
- Low level of interest in business planning
- Often learn by mistakes

Conservative

- Usually well managed from top down
- Moderately well managed from bottom up
- Tends toward paternalistic management
- Major decision making centered in top management
- Good financial strength, if mature
- Dependable
- Predictable
- Closely controlled employee training
- Modest salary structure
- Good standard employee financial benefits
- Usually stress hygiene as opposed to motivational drive
- High levels of employee loyalty in those who like the system
- Provision of employee security
- Generally pretest decisions at executive management levels



MANAGERIAL LEVERAGE



MANAGEMENT BY EXCEPTION (MX) AND
PERFORMANCE LEVEL ACTIONS

Retentions, Collections and Final Payment

I. Ralph I. Stephenson PE

A. Construction retentions, collections and final payment - ho 259

B. Introduction - Payment as a lifeline

Lifeline has many definitions but one in particular strikes me as being most appropriate to the construction profession; "A lifeline is a line or rope for saving life".

Payment or money flow on a construction project can be just that - a line of strength that can preserve the life, vigor and integrity of a project, or a line of weakness that can cast the project adrift.

Successful firms are not often heard complaining about payment. This oddity bears close examination from those seeking to emulate them.

C. General nature of cash flow in the construction industry

1. Legal background for progress payments

a) Governed by the doctrine of conditions

Doctrine of conditions says that a party should not have to perform its promise without obtaining the other party's promised performance. The principle is central to any discussion of progress payments..

b) Who is required to perform first?

Common law requires that performance of services precede payment.

2. Role and obligations of the payer

a) To maintain strong financial position that allows prompt payment when deserved

(1) Makes people want to work for you

(2) Improves potential for future reductions in proposal prices

b) To pay promptly and within the context of the contract

3. Role and obligations of the payee

a) To perform well and in accordance with your contract

b) To bill accurately and promptly

c) To follow the ground rules by which payments are to be made

d) Frequently the payee holds the key to successful payment for the work

e) Points for the payee to consider

Too often we in the construction industry blame everyone but ourselves for not being paid what we think is owed us promptly.

Many times the cause of slow or reduced payment lies with the payee, not the payer.

D. Conditions surrounding collections and payments

1. Unsuccessful collections & payments often result from

a) Mistrust - Inability to work honestly with unwritten standards

b) Cupidity - Inordinate desire to get something for nothing

c) Doubtful risk taking - A high risk has a corresponding high penalty

d) Ultra conservatism - Excites suspicion and slows cash flow

e) Incompetence - Produces a lack of desire to pay or work - no incentive

f) Claim prone environment

The contested claim brings out the worst in everyone, and most particularly makes the payer reluctant to pay.

Understanding how to reduce the dust, noise and confusion that surround contested claims often can encourage prompt payment even in difficult conflicts.

(1) Common causes of contested claims and their frequency are

(a) Directed change - 48%

(b) Constructive change - 42%

- (c) Defective or deficient contract documents - 41%
- (d) Delays - 41%
- (e) Constructive acceleration - 35%
- (f) Maladministration - 33%
- (g) Differing site conditions - 31%
- (h) Impossibility of performance - 18%
- (i) Superior knowledge - 18%
- (j) Termination - 7%
- g) Stubbornness - A balky mule cannot be depended on to pull the wagon
- h) Dishonesty - Destroys incentives to play fair and pay promptly!
- 2. Successful collections & payments
 - a) Trustful relations

Construction is a give and take situation. By the end of the job the gives and takes must balance out. The construction machinery is lubricated by the exchange of small favors.
 - b) Honesty

Honest people select their business associates carefully. Those who pay for services rendered generally recognize honesty in a company or an individual if they themselves are honest.
 - c) Competence

Competent people recognize competence in others. On most jobs, given the presence of a reasonable number of high value factors, the competent payee will be compensated fairly and promptly. Financial check and balance systems ask too many "why" questions to allow competent parties to remain unrewarded.
 - d) A willingness to give and take

All taking and no giving by either the payer or the payee will sink a project in a swamp of paper and a sea of red ink. The mistrust that results from this lack of informal give and take will grow to a monster unless it is replaced by a mutual confidence by the parties to the situation.

E. Retentions

- 1. Often used for doubtful reasons
 - a) As a club to assure proper completion
 - b) To save interest payments for 10% of the job cost
 - c) To insure construction damage to completed work is repaired
 - d) To pay for anticipated contested claims
- 2. The problems of retention are old and will probably remain problems until
 - a) Properly addressed by the parties involved
 - b) There is agreement among like parties as to its impact
 - c) All parties to a contract behave according to their contract
- 3. Attitudes and realities about retention
 - a) In 1976 a survey was made of the American Subcontractors Association (ASA)
 - (1) Showed average retention among members was \$200,000
 - (2) Members said would reduce bid price 3.7% if retention was eliminated
 - b) A recent survey of the American Subcontractors Association indicates
 - (1) Subcontractors are willing to give lower bids to generals who
 - (a) Pay them promptly
 - (b) Offer them a fair and equitable contract
 - (2) Of 200 respondents
 - (a) 89% said they give better bids to generals regularly or occasionally
 - (b) 90% did so because the general had prompt payment policies
 - (c) 91% said not paid within 3 days of billings
 - (d) 69% said not paid within 7 days of billings

c) Policies on retention

- (1) Recent AGC, ASC and ASA policy calls for payment within 7 days of billing
- (2) In 1974 GSA went to zero retention
- (3) At one time Department of Defense eliminated retentions
- (4) EPA once wrote retention requirements out of its grants
- (5) About 1984 Michigan Dept. of Msm. & Budget adopted zero retention
 - (a) Was required by the legislature
 - (b) Department had 2 choices
 - i) Put money in escrow
 - (1) Problem - couldn't use state treasury for holding vehicle
 - (2) Problem - private holding would have too complicated
 - (a) Would have thousands of accounts
 - (b) Prohibitively expensive and cumbersome
 - ii) Adopt a policy of total payment for completed line items
 - (1) Each line item was to be explicit
 - (a) On recent \$2,000,000 job
 - i) Had about 1100 line items
 - ii) Listed on 27 pages
 - iii) Ranged in cost from \$100 to nearly \$70,000
 - (c) Adopted zero retention route
 - i) Some state officials like it, some hate it
 - ii) Some contractors like it, some hate it
- (6) In 1983 the Office of Federal Procurement Policy decided that
 - (a) A uniform government wide policy should be implemented
 - (b) Retainage was not to be used as a substitute for good contract management
 - (c) An agency cannot withhold funds without good cause
 - (d) Determinations on retainage are to be made on the basis of
 - i) Contractor's past performance
 - ii) Likelihood that such performance will continue in the future
 - (e) Suggested that
 - i) Retainage not exceed 10%
 - ii) That it be adjusted downwards as the contract approaches completion
 - iii) When contract is complete all retainage be paid promptly

d) Summary - there is no single attitude or reality re retentions!

F. Collections, or better yet, payments

1. Direct payment from the owner
 - a) Conventional method on self financed projects
 - b) Success of method depends on the integrity and competence of the owner
2. Direct payment from another contractor
 - a) Evolved when general contractor did most of their own work
 - b) The secondary payment process may be used as a club rather than a tool
3. Direct payment from another party
 - a) Usually called the title company method
 - (1) Steps in the title company disbursement method
 - (a) A. Monthly draw requests received from the contractors
 - (b) B. Supporting documents reviewed by the appropriate tier of contractor
 - (c) C. Job inspected by inspecting architect retained by payer
 - (d) D. Payment made to the contractors directly
 - i) Sometimes direct to subs
 - ii) Sometimes to general contractor for disbursement to subs
 - (2) Advantages
 - (a) Insures prompt payment to contractors
 - (b) Provides third party evaluation to gage performance

- (c) Gives financing source full control of the money flow
- (d) Tends to diminish tendency to front load or unbalance billings
- (3) Disadvantages
 - (a) Removes some of prime contractor's leverage to get work done
 - (b) Creates excessive dependency on attitudes of financing source
 - (c) Owner plays secondary role in motivating performance
 - (d) Poorly qualified inspecting architect can create havoc
 - i) Bad attitude toward contractors
 - ii) Jealousy between architect of record and inspecting architect

G. Final payment

1. Elements of record used in closing out the job
 - a) The punch list and the certificate of occupancy
 - (1) Usually these provide the rationale behind final payment being made
 - (2) You should decide early how the job is to be punched out
 - (a) Who is to do it?
 - (b) When is it to be done?
 - (c) What standards of performance are to be used to measure acceptability
 - (d) When is the contractor's punch list to be prepared?
 - (e) When is the owner's punch list to be prepared?
 - b) The operating and maintenance manuals
 - (1) Inadequate OMM submittals may be cause for non payment
 - (2) Get them done and get them submitted!

H. Where successful collections and payment start

1. The agreement

The starting point for cash flow success is preparation and execution of a well understood agreement up front.

- a) Often contractors take jobs that specify impossible performance

Leads to getting into a position where the owner, or the architect engineer feel they can withhold payment for personal, subjective reasons, using the impossible clause as a legal reason.

Example: the withholding of payment because the contractor did not submit a acceptable schedule within a given period of time - usually an unreasonable time frame for preparation of a good plan of work and schedule.

- (1) Infeasible schedules
- (2) Inadequate contract documents
- (3) Unworkable contract agreements
 - (a) Multiple primes
 - (b) Installation of unknown systems
 - (c) Undefined responsibility patterns

2. The client - either owner or contractor

Most payment-successful contractors profile a prospect before proposing on a job. This is done with any new client, and sometimes on previous clients with doubtful records.

- a) Profiling a client should follows a basic pattern
- b) What factors describe how a client will pay?
 - (1) Personal integrity
 - (2) Business integrity
 - (3) Past payment record with you
 - (4) Past payment record with others
 - (5) Current financial strength
 - (6) Nature of assembled project financing
 - (7) Process used for approving payment and releasing funds

- (8) Attitudes of the architect/engineer toward you and paying
- (9) Methods of closing out jobs

3. The project

As with the client, the project must also be profiled. Not every job is for everyone. Be very selective so as to optimize your opportunities for success.

- a) What factors describe a good pay project for you
 - (1) Your past experience in building such facilities
 - (2) The client's past experience in building such facilities
 - (3) Funding sources
 - (a) Individuals
 - (b) Syndicates
 - (c) Trust funds
 - (d) Pension funds
 - (e) Political entities
 - (4) Payment method
 - (a) Direct payment
 - (b) Title company payment
 - (c) Inspecting architect
 - (d) Payment method specified to be used for sub contractors
 - (e) Retention specified

4. Evaluating the job

Once the client and project factors are identified, it is necessary to analyze them for a decision as to whether the job is potentially a good job or a bad job. Good and bad is evaluated as to the risk and the return on investment.

- a) A. Weigh each factor
 - (1) Weight each from one to ten as to its importance to you
 - (a) One - totally unimportant to being paid
 - (b) Ten - most critical to being paid
- b) B. Assign values to the client and the project which you are proposing upon
 - (1) Values should be from one to ten
 - (a) One - Client and project produce worst pay potential situation for factor
 - (b) Ten - Client and project produce best pay potential situation for factor
- c) C. Multiply the factor weight by the value to get a profile number
- d) Example of profiling

How you might profile the payment potential of a new prospect.

Factor weights multiplied by value for client Jones

- Honesty in business - $10 \times 08 = 80$
- Past payment record with you $10 \times 06 = 60$
- Past payment record with others $07 \times 03 = 21$
- Current financial strength $07 \times 05 = 35$
- Nature of assembled financing $05 \times 07 = 35$
- Process for approving payment and releasing funds $08 \times 09 = 72$
- Attitudes of the architect/engineer - $06 \times 06 = 36$
- Method of closing out jobs $07 \times 05 = 35$

Factor weights multiplied by value for Jones project

- Your past experience in building such facilities $05 \times 08 = 40$
- Client past experience in building such facilities $04 \times 04 = 16$
- Funding sources $08 \times 08 = 64$
- Payment method $07 \times 05 = 35$

Total = 529 out of a total possible of 740, or a 71% potential for good payment relationship.

I. Rules for getting paid promptly

1. Be certain of your agreement and understand what it says
2. Be honest in your dealings and your intent
3. Fulfill your contract
4. Avoid legal entanglements and threats
5. Be willing to use the lubricating oil of small favors exchanged

J. If you aren't entitled to it don't try to get it!

K. ho 259 - Dec., 87

record types and their uses

	document	record action	record suptv action	record opin	record chngs	record dec & agrmnts	record appvls	record progrs	record resrce flow	record data	record doc procs	record results
1	Appraisals		x	x					x			x
2	Bulletins				x		x		x		x	
3	Certificates of completion					x	x	x				x
4	Certificates of occupancy					x	x	x				x
5	Change orders				x	x	x		x			x
6	Check lists			x					x	x	x	
7	Claim notification letters	x	x	x	x	x				x		x
8	Clarifications		x	x	x					x		x
9	Color coded network models	x		x			x	x	x	x		x
10	Construction record drawings	x				x	x	x		x	x	x
11	Construction site plan	x	x									
12	Consultant lists		x							x		
13	Contract document sign offs	x				x	x				x	x
14	Contract drawings				x	x	x		x			x
15	Contract specifications				x	x	x		x			x
16	Contractor lists		x							x		
17	Contracts	x	x		x	x	x		x			x
18	Cost estimates		x	x	x		x	x	x	x		x
19	Cost reports		x		x		x	x	x	x	x	x
20	Diaries	x	x	x	x	x	x	x			x	x
21	Document control files									x		x

listed alphabetically by type

record types and their uses

	document	record action	record suptv action	record opln	record chngs	record dec & agrmts	record appvls	record progrs	record resrce flow	record data	record doc procs	record results
22	Equipment data tabulations							x		x		
23	Expense reports		x						x	x		
24	Field orders	x			x	x	x					x
25	Field reports	x			x	x	x	x		x		x
26	Guarantees		x									
27	Impact reports	x	x	x	x	x		x	x			x
28	Interoffice memos (IOC)	x		x	x		x					
29	Isoquant line comparisons						x	x	x	x		
30	Letters	x		x							x	
31	Logs	x	x	x	x	x	x	x	x		x	x
32	Maintenance manuals										x	
33	Meeting minutes	x	x	x	x	x	x	x	x		x	x
34	Money flow curves		x					x	x	x		x
35	Monitoring reports	x		x	x	x	x	x	x			x
36	Operation manuals									x		
37	Performance evaluations	x		x		x	x					x
38	Permits		x			x	x	x			x	x
39	Phone records and logs	x	x	x	x		x	x				x
40	Photos	x			x	x		x	x			x
41	Post job critiques	x		x	x		x	x	x		x	x
42	Pro forma financial analyses		x			x			x	x		

listed alphabetically by type

record types and their uses

	document	record action	record suptv action	record opin	record chngs	record dec & agrmts	record appvls	record progrs	record resrce flow	record data	record doc procs	record results
43	Project directories									x		
44	Project histories	x			x		x	x	x	x	x	x
45	Project network plans			x	x	x	x	x	x			
46	Project schedules			x	x	x	x	x	x	x		
47	Proposal spread sheets		x							x		x
48	Punch lists	x		x	x	x	x	x		x		x
49	Purchase orders		x			x	x		x			
50	Quantity takeoffs		x						x	x		
51	Requests for change orders	x	x		x	x	x		x			
52	Requests for information		x		x		x					
53	Requests for payment	x	x				x	x	x			x
54	Requests for proposals		x									
55	Resource histograms								x	x		
56	Risk management data		x									
57	Sample logs	x	x		x				x	x	x	x
58	Schedules of values				x				x	x	x	
59	Shop drawing logs				x			x	x	x	x	x
60	Site evaluation data sheet	x	x	x								x
61	Specifications					x						
62	Testing reports		x	x	x					x		x
63	Time cards	x						x	x	x		x

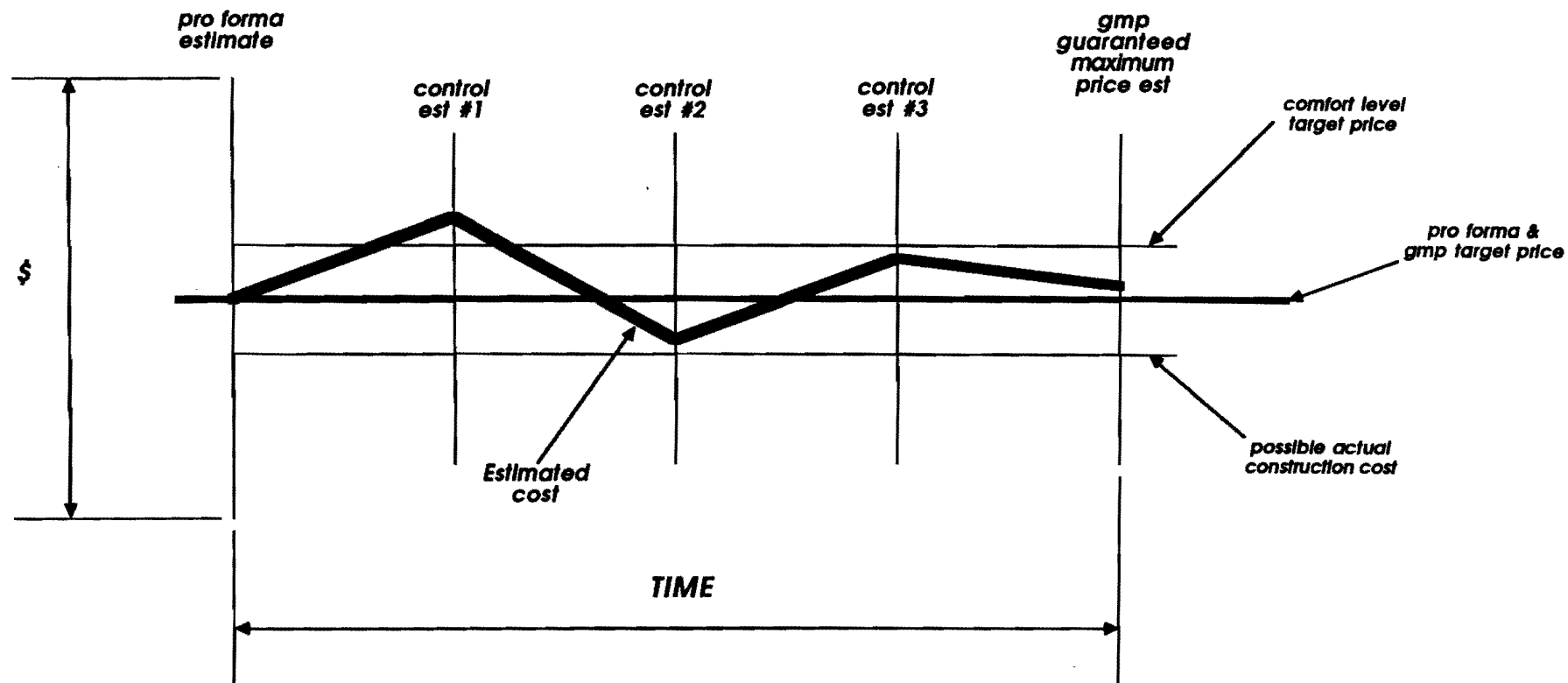
listed alphabetically by type

record types and their uses

	document	record action	record suptv action	record opln	record chngs	record dec & agrmts	record appvls	record progrs	record resrce flow	record data	record doc procsq	record results
64	To do lists	x						x				x
65	Transmittals	x			x	x	x	x	x		x	x
66	Waivers	x				x						x
67	Warranties					x						
68	Work orders	x			x	x	x					x

listed alphabetically by type

7.3.2



THE ITERATIVE COSTING SEQUENCE

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Sheet
#IT1

General Steps Taken in Processing A Construction Claim

Review and study draft only

The starting point of most construction related claims is when one of the parties involved feels they have been harmed in some manner by the actions of another involved party. Of course there are many variations on this basic theme. Due to the number, complexity and combinations of circumstances under which a contested claim may arise, let us first take a specific set of project delivery criteria and examine the steps that might be followed in resolving a typical dispute.

Assumptions - The project is a hard money, fixed time job in which the construction firm doing the work is considered a prime contractor, with a conventional construction contract with the owner. The owner has had his design team prepare a relatively complete set of contract documents from which contractor selection was made by competitive bidding from a short list.

Further assume that at some point in the construction process the owner takes an action that seems to interfere with the right of the contractor to enjoy a maximum profit from his construction efforts (sometimes called maladministration), while, in the contractor's opinion, he is still performing in accordance with his contract obligations.

To describe an instance where this could actually happen, suppose the contract calls for completion of the total facility by September 1st with no specified intermediate dates for owner occupancy of the facility. Part way through the job the owner makes it known to the contractor that he wants the upper floors delivered by July 1st, but will still take the lower floors on September 1st. The owner says this should be at no additional cost to him since the contractor was planning to be done about that time anyway. The contractor proceeds to try and accommodate the owner.

Usually in a good contractor/owner relation a matter of this nature can be worked out amiably and to the mutual operational and financial satisfaction of both parties, the owner and the contractor.

However in this case, assume the revisions apparently cause considerable disruption of sequencing, delivery commitments and manpower assignment to the project over what had been planned by the contractor. An effort to resolve the matter equitably for both parties has been made and was unsuccessful. Clearly, where the financial and other losses of the contractor, real or imagined, is sizable, another method of approaching a

settlement must be found.

Now, the first step in a formal resolution takes place - making a decision on the preferred or specified method to use to settle. Usual methods are:

- Administrative settlement
- Mediation
- Arbitration
- Modifications or combinations of the above

Usually the preferred solution by most parties to a dispute is by some type of administrative settlement through discussion among the operational and executive staffs of the owner and the contractor. Where this proves difficult or impossible, succeeding steps are usually taken.

For our example let us start by considering litigation.

Litigation is the settlement of a dispute through the efforts of a third party operating under legal rules governing the presentation, consideration and judgments rendered in the case. It is to be emphasized that the steps outlined below are not to be considered the formal legal steps to be taken, but within the writer's experience are steps most contested claims in which he has been involved with follow to their resolution.

There may be considerable variation in the sequence in which the steps are taken. However at some time in the process each of the following actions must be considered, and if appropriate, taken. The steps are lettered for convenience of reference, but are not necessarily listed in the sequence in which they may be taken.

- **Step A** - The need for a claim emerges and the parties involved discuss the matter. There is either a resolution, a decision to pursue the matter further administratively, or a decision to file for formal action resulting from the discussions.
- **Step B** - If a resolution is not achieved, the contractor will probably prepare additional submittal material identifying the circumstances, the effects, the impacts and the approximate reimbursement felt due him as a result of imposition of other than contract conditions on his work.
- **Step C** - This submittal material is then presented by the contractor to the owner and further discussions are held. These hopefully will lead to an administrative settlement.

If not, the contractor may file through his legal advisors, a request for one of several kinds of formal third party decision actions, such as mediation, arbitration or litigation. The discussion in this paper deals primarily with the technical steps usually followed in litigation.

- **Step D** - The contractor through his legal advisors, then actually files for litigation. This is a complex and formal process, a description of which is beyond the scope of this essay.
- **Step E** - As the petition for litigation is being filed, the contractor selects the issues to be addressed that have contributed to the claim, and the level of documentation he and his technical and legal counsel feel appropriate.
- **Step F** - If a relatively low level of documentation has been deemed adequate, since the causes and proof of the contested claim issues seem apparent, the contractor's staff will usually assemble the claim file and estimate the cost of the damages caused by the owner's apparent interference.

If the nature of the claim is such that many complex and obscure factors have contributed to the claimed loss, or the proof of loss appears excessively complex, the contractor may call in an outside qualified and objective expert to help assemble the documents, the facts and the amounts to be claimed.

- **Step G** - The backup documentation concerning correspondence, transmittals, estimates, change processing, directives, and other pertinent historical records is assembled into a data system which allows the location, printing, abstracting and relative rapid analysis of groups of documents or records relating to any subject, chronology, organization or other classification system desired.
- **Step H** - Concurrent with preparation of detailed document files, the discovery of evidence by both parties is pursued. This discovery period is often characterized by demands for what are called interrogatories and depositions. It is to be emphasized that the discovery period in litigation is primarily to uncover evidence, its source, its existence and its nature.

Because of the often difficult nature of activities during discovery in the litigation process it is usually an advantage for the contractor to have his outside experts work directly for the legal advisor. This may provide some protection to the consultant work product and thus shield it from those not friendly to the contractor.

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- **Step I** - As discovery proceeds, the parties to the dispute should be, and usually are, trying to agree on an administrative settlement as the various claims and counter claims statements emerge.

Also, during the discovery period face to face attempts to uncover evidence are accomplished most commonly by deposition. The deposition consists of testimony and questioning, again aimed at evidence location. The deposition period will usually continue over a period specified loosely by the governing judicial body in the matter.

From depositions, additional documentation is found, and if wanted by a party to the dispute, subject to acquisition by the subpoena process. This process usually does not allow material prepared by a consultant for an attorney to be acquired through subpoena. This is the main reason for having the legal consultant work directly for the legal consultant and prepare confidential data and analyses for the attorneys. This material is sometimes known as a protected work product.

An important feature of the discovery/subpoena process is that few if any documents prepared during the course of the job can be totally shielded from acquisition by the opposition. Therefore there is a strong need for good, intelligently written documentation of the job during its construction.

- **Step I** - At some point, usually determined by the governing legal body, the discovery period is declared closed and formal legal hearings now begin. By this time a selection and settlement on the type of litigation decision making process has been made. The two most common methods are the bench trial and the jury trial.

A bench trial is conducted by a judge only, and he makes the decision in the matter after the hearings have been completed. The jury trial uses a jury of lay individuals to hear the testimony and to judge the merits of the case.

In technical matters, such as construction, it is most often found that a bench trial is preferable to the jury trial due to the difficulty in presenting understandable evidence to a group of lay people, who often are not acquainted either with the legal process or the design and construction industry.

- **Step K** - During the formal trial process the parties to the contested claim present their respective views in arguments, displays of evidence, direct questioning and cross examination of witnesses. The judge, in a bench trial, or the jury, in a jury trial, listens

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to the presentation of evidence until the arguments are exhausted, and both sides or the judge calls it quits.

During the hearing process many people may be called to the witness stand to answer questions. Those who have given depositions may be closely questioned on statements made by them during the deposition, particularly in relation to additional information that has come out during subsequent depositions, interrogatories or in court.

- **Step L** - Once the governing legal body declares the trial completed, the case is closed and either the judge, in a bench trial, or the jury, in a jury trial, retire to review the evidence, think about the testimony and the evidence, and to make a decision from the choices presented during the trial.

- **Step M** - When a decision as to the relative merits of each party's case is reached by the judge or the jury, the decision is announced and the settlement of claim is decided on by the governing legal body. This then closes out the case as originally heard and judged upon. From this point on there are several legal actions possible that could reopen the matter of the contested claim and its merits. A discussion of these is beyond the scope of this paper.

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Suggested Bibliography of Management Related Books

a starter list for the project manager's library

- | | |
|--|-----------------------------|
| • Managing Yourself Creatively
Hawthorn Books, Inc.
260 Madison Avenue
New York, New York | Ted Pollock |
| • The Nine Master Keys of Management
McGraw Hill Book Company
330 West 42nd Street
New York, New York | Lester Bittel |
| • It All Depends
University of Alabama Press
University of Alabama | Harvey Sherman |
| • Management - Tasks, Responsibilities, Practices
Harper & Row, Publishers, Inc.
10 East 53rd Street
New York, New York 1002 | Peter F. Drucker |
| • The Managerial Grid
The Gulf Publishing Company
Houston, Texas 77001 | Blake & Mouton |
| • Top Management Planning
The MacMillan Company
866 Third Avenue
New York, New York 10022 | George R. Steiner |
| • Management by Exception
McGraw Hill Book Company
330 West 42nd Street
New York, New York 10036 | Lester R. Bittel |
| • Critical Path Method
Cahners Publishing Company
Boston, Massachusetts 02116 | Radcliff, Kawal, Stephenson |
| • Effective Psychology for Managers
Prentice Hall, Inc.
Englewood Cliffs, New Jersey | Mortimer R. Feinberg |

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- **The Time Trap**
Amacon
135 W. 50th Street
New York, New York 10020
- **Management - Theory and Practice**
McGraw-Hill Book Company
330 West 42nd Street
New York, New York 10036
- **An Introduction to Decision Logic Tables**
John Wiley & Sons, Inc.
605 Third Avenue
New York, New York 10016
- **Management by Objective**
Pitman Publishing Company
20 East 46th Street
New York, New York 10017
- **How to Attract Good Luck**
Cornerstone Library
Division of Pocket Books, Inc
Rockerfeller Center
670 Fifth Avenue
New York, New York 10020
- **Synectics**
Harper & Row Publishers, Inc
49 East 33rd Street
New York, New York 10016
- **The Speech Writing Guide**
John Wiley & Sons, Inc
605 Third Avenue
New York, New York 10016
- **The Executive Deskbook**
Van Nostrand Reinhold Company
450 West 33rd Street
New York, New York 10001
- **Formal Organization - a systems approach**
Irwin - Dorsey Press
Homewood, Illinois

R. Alec MacKenzie

Ernest Dale

Herman McDaniel

George S. Odiorne

A.H.Z Carr

William J. J. Gordon

James J. Welsh

Auren Uris

Carzo & Yanouzas

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- **Managing Architectural Projects**
The American Institute of Architects
1735 New York Avenue NW
Washington, DC 20006
- **Before You Build**
Her Majesty's Stationery Office
Government Bookshops, England
- **A Professional Guide for Young Engineers**
Engineers Council for Professional Development
- **Legal Aspects of Architecture, Engineering and the Construction Process**
West Publishing Company
St. Paul, Minnesota
- **Managing in Turbulent Times**
Harper & Row, Publishers, Inc.
10 East 53rd Street
New York, New York 10022
- **Effective Meetings for Busy People**
McGraw Hill, Inc.
New York, New York
- **Give & Take**
Thomas Y. Crowell Company
New York
- **Smart Questions**
McGraw Hill Book Company
New York, New York
- **Managing Organizational Conflict**
Prentice Hall, Inc.
Englewood Cliffs, New Jersey
- **Project Partnering for the Design and Construction Industry**

David Haviland

William E. Wickenden

Justin Sweet

Peter F. Drucker

William T. Carnes

Chester L. Karrass

Dorothy Leeds

Stephen P Robbins

Ralph J. Stephenson, P.E.

Partnering Charter Objectives

The list of objectives below is designed to assist stakeholders to write a sound, well expressed charter. If a numbered objective fits a particular recommendation your team wishes to make, note the number of the objective and any revisions you wish to make to it. We will then consider the objective for inclusion as we write the project charter.

Topics appearing below include:

- A. Approval Processes
- B. Being A Good Off/On Site Neighbor
- C. Closing Out the Project
- D. Communicating With Others
- E. Decision Making
- F. Documents and Documentation
- G. Financial Matters
- H. Inspection and Testing
- I. Issue, Conflict, and Problem Resolution
- J. Job Management
- K. Legal Matters
- L. Maintaining Regular Project Evaluations
- M. Organization, Authority, and Responsibility
- N. Planning and Scheduling
- O. Payment Processing
- P. Personnel Quality and Problems
- Q. Regulatory Agency Matters
- R. Revision Processing
- S. Staff Morale and Attitudes
- T. Submittal Processing
- U. Work-site Conditions

Don't hesitate to change wordings since it is entirely possible that your expression of a desired objective may be different than that of the original.

A. Approval Processes

1. Approve field and change orders promptly.
2. Provide required documentation and approvals within the mutually agreed upon time frame.

3. Make and document all decisions, and provide all approvals at their management level promptly, fairly and with consideration of the requirements of the project.

B. Being A Good Off/On Site Neighbor

4. Keep disruptions of school activities to a minimum
5. Maintain a construction environment that is nondisruptive to students, staff, and the public
6. Improve on maintaining a clean, safe, accessible and well-planned job site.
7. Be a good on-site and off-site neighbor.

C. Closing Out the Project

8. Close out the project in a proper and timely fashion, avoiding; premature requests for punch list inspection, inclusion of noncontractual requirements, multiple punch lists of the same area, and premature occupancy of an area.
9. Close out the project promptly, completely, and fairly and in accordance with the contract documents.
10. Establish and implement close-out guidelines that provide direction for punching out job, prompt issuance of Certificates of Substantial Completion, setting intermediate occupancy dates, maintenance and transmission of contract record documents.
11. Prepare and publish a rolling close out procedure.
- 11a. Prepare, publish and adhere to a close out plan.
12. Prepare, publish and implement a rolling punch list and close out procedure.

D. Communicating With Others

13. Anticipate, identify, and accurately communicate potential job problems
14. Ask questions and request information clearly and accurately
15. Be explicit and constructive in submittal review comments.
16. Be sensitive to the informational needs of the building partners.
17. Communicate all issues in a timely fashion.
18. Communicate clearly, accurately and in a timely manner through appropriate project channels.
19. Communicate effectively in an open, honest manner with all appropriate stakeholders.
20. Communicate the conditions and disruptive circumstances inherent in the demolition and construction activities, to the operations staff of the hospital.
21. Communicate the principles of partnering on this project to all participating

parties.

22. Continue to provide prompt notification of planned and required shut downs, and outages from and to the contractors and the University.
23. Ensure the design is understood and acknowledged by all the partners.
24. Maintain open lines of communication
25. Make progress and coordination meetings productive and brief by preparing well, and bringing both problems and solutions to the table.
26. Prepare and publish a communications flow chart showing roles and responsibilities of all project team members. 26. Prepare well for progress meetings and make them brief and productive.
27. Promptly prepare and respond to requests for information, substitutions, and clarifications of contract documents.
28. Provide adequate data re: user-furnished equipment for construction to proceed as desired.
29. Provide prompt notification of planned and required shut downs and outages from and to the contractors and the University.
30. Provide timely communications, responses, decisions... and be available.
31. Recognize that project conditions and decisions affect other partners in achieving the overall design intent.
32. Regularly monitor and discuss, all anticipated outages with utility company and subcontractor input and provide maximum possible notice to the user of anticipated outages.
33. Respond promptly to requests for information and clarifications of contract documents.
34. Stay in touch with the project, i.e. reading meeting minutes, attending meetings as needed, and being available for input
35. Prepare, publish and adhere to the lines of communication, authority, and responsibility for the school building partnering team.
36. Prepare and respond promptly and completely to requests for information and clarification of contract documents.

E. Decision Making

37. Make decisions in a timely manner and stand by the agreements you have made.
38. Make timely decisions in all project related matters.
39. Provide adequate backup data, within expectations, to allow timely and accurate decisions to be made by members of the project team.

F. Documents and Documentation

40. Accurately prepare and properly distribute project documentation in a timely manner

G. Financial Matters

41. Practice fairness in price proposals, backcharges, and all other financial matters.

H. Inspection and Testing

42. Provide for timely and professional technical inspection services with appropriate feedback to those affected.

I. Issue, Conflict, and Problem Resolution

43. Maintain the current issue resolution policy. (The current policy stresses the resolution of conflict at the originating or lowest possible working level.)
44. Minimize disputes and resolve conflicts quickly and at the lowest possible management level.
45. Prepare and publish an issue resolution policy which stresses the timely resolution of conflict at the originating or lowest possible management level and seeks to avoid litigation.
46. Prepare, publish, and implement a dispute resolution system designed to resolve conflicts at the lowest possible management level.
47. Strive to resolve job conflicts quickly and at the originating or lowest possible level.

J. Job Management

48. Anticipate events - be proactive.
49. Avoid surprises!
50. Be familiar with the contract documents.
51. Carefully evaluate and be sensitive to the impact that construction activities may have on the environmental integrity and safety of all ongoing hospital operations.
52. Continue to implement the partnering evaluation system (involving new participants).
53. Continue to improve and implement agreed-upon project procedures that provide all stakeholders guidelines for:
54. Time commitments for procedures.
55. Prioritizing assignments.

56. Design and construct a facility that is built so as to recognize the need for the builders and the designers to achieve a reasonable financial profit on their work.
57. Design and construct a facility that is built within the time and cost terms of the lease-purchase documents.
58. Develop a organizational matrix showing lines of communication and responsibility to be maintained on the project.
59. Encourage the participation of all parties at all project levels in the partnering process and the partnering spirit.
60. Enforce the construction traffic and parking plans.
61. Foster understanding of construction documents
62. Identify and remedy incorrect performance in a timely manner.
63. Insure that each of their management team members is fully aware of the requirements of the project.
64. Keep current with project status and requirements.
65. Keep paperwork to a minimum.
66. Maintain a close relationship between expectations and reality
67. Maintain a continuous and efficient work force and effective procurement to ensure quality, sequence, and schedule
68. Maintain an adequate management and work force to fulfill contract commitments.
69. Maintain client safety and user satisfaction during construction.
70. No surprises
71. Plan for and meet the human resource requirements of the project, and maximize opportunities for women and minorities.
72. Plan for future service access to equipment during mechanical, electrical and plumbing installation.
73. Plan for the future not for the past.
74. Prepare and publish a calendar of project events indicating when key personnel are required to participate in project management activities. Partners will attend and participate in all required meetings and provide backup management where necessary.
75. Preplan work recognizing the impact plans have on achieving the design intent.
76. Properly staff and maintain competent personnel, and equipment required on the project.
77. Provide proper resources to support the agreed-upon plan and schedule of work.
78. Provide resources to fulfill contract & charter obligations.
79. Recognize and be sensitive to the needs of other stakeholders on the project.
80. Strive for a zero punch list.
81. Use human and technological resources to their maximum effectiveness.

- 82. Meet individual and organizational obligations.
- 83. Maintain a clean, safe, accessible and well-planned job site.
- 84. Maintain a clean, secure, accessible and well-planned job site.
- 85. Continue to improve... a. Submittal and request for information (rfi) processing, including agreed-upon schedules and response times to meet the needs of all parties.
- 86. Continue to improve... b. Prompt payment processing including retention.
- 87. Continue to improve... c. Revision and change order processing, including a streamlined process for minor changes (\$1000 or less).

K. Legal Matters

- 88. Strive to avoid litigation.

L. Maintaining Regular Project Evaluations

- 89. Prepare, publish, and implement a partnering evaluation system by which the effectiveness of the system is regularly monitored. Prepare, publish, and implement a partnering evaluation system (stakeholders task force)
- 90. Prepare, publish and implement a project partnering evaluation system.

M. Organization, Authority and Responsibility

- 91. Be accountable for your actions.
- 92. Fulfill respective responsibilities and commitments to permit on-time completion of the project.
- 93. Maintain continuity of key job personnel.
- 94. Prepare and publish a project directory showing people, work category, position and alternate contact.
- 95. Prepare, publish, and use a project chain of command
- 96. Prepare, publish, and keep current a chart of channels for communication, responsibility, and authority.

N. Planning and Scheduling

- 97. Adhere to agreed upon schedules and resource commitments.
- 98. Adhere to the current master construction schedule in effect on the project.
- 99. Develop a realistic plan of work and project schedule and honor it.
- 100. Distribute and regularly monitor and discuss, with subcontractor input, a master project schedule, and update schedules as required.
- 101. Mutually prepare, publish, implement, and keep current a project action

plan and schedule of work that is useful to all stakeholders.

102. Prepare, distribute and regularly monitor and discuss, with subcontractor input, a master project schedule, and update schedule as required.

103. Solicit all team member's input for planning and scheduling

O. Payment Processing

104. Promptly prepare, submit, and process all payment requests.

105. Submit properly prepared requests for payment.

P. Personnel Quality and Problems

106. Do it right the first time and strive to achieve a zero punch list

Q. Regulatory Agency Matters

107. Work closely with all regulatory agencies to assure compliance to their current standards and regulations.

R. Revision Processing

108. Accurately price changes to the project in a timely, reasonable and fair manner.

109. Approve and process changes in a timely manner.

110. Approve changes in a timely manner including formal issuance of supplemental agreements.

111. Control revisions being considered for the project to maintain the planned budget.

112. Prepare and implement guidelines for screening proposed changes to the project prior to requesting formal pricing of the changes. (owner, user, designers)

113. Provide accurate data and adequate time to ensure pricing changes that are fair and timely.

114. Provide reasonable change request budgets and identify insufficient budgets promptly.

115. Provide reasonable field change orders and change issue budgets, and accurately price changes to the project in a timely, reasonable, and fair manner.

S. Staff Morale and Attitudes

116. Be available.

117. Be cooperative

- 118. Be willing to suggest and consider cost and time effective options.
- 119. Establish a trustful work environment with other stakeholders.
- 120. Establish and maintain good informal working relations on the job.
- 121. Extend the spirit of partnering to all project participants.
- 122. Have fun!
- 123. Have fun and celebrate the successful completion of the project.
- 124. Maintain high job morale and cooperative attitudes among all project participants.
- 125. Make the project a fun place to work and to meet new friends
- 126. Promote and adhere to acceptable standards of conduct by the project team on the site.
- 127. Recognize individual and team accomplishments.
- 128. Respect all project participants and their work.
- 128a. Respect and treat other's and their work as you wish you and your work to be treated; accept responsibility for damage to other's work.
- 129. Respect design and construction excellence as a fundamental goal to be achieved.
- 130. Respect financial profit as an incentive for private sector stakeholders.
- 131. Respect other team members' work and abilities.
- 132. Take pride in our work, respect the ideas and work of others and treat others as you would have them treat you.
- 133. Treat others as you would have them treat you.

T. Submittal Processing

- 134. Prepare, package, and process submittals in a timely, fair, and considerate manner consistent with the priorities of the contractors, designers, and owner.
- 135. Promptly review and determine the merit of properly submitted requests for extensions of time.

U. Work-site Conditions

- 136. Continue to maintain continuity of work points between trades. (Work points refer to building control coordinates and elevations.)
- 137. Maintain a safe, orderly, well organized work site.
- 138. Maintain a well planned and clean work site.
- 139. Maintain continuity of work points between trades.
- 140. Maintain, in conjunction with other stakeholders, a work area plan to be implemented by affected stakeholders.
- 141. Prepare and publish a construction traffic and parking plan.
- 142. Prepare, publish, and implement a project clean up program for contractors

on site.

143. Promote a clean and safe job environment.

144. Provide complete and unencumbered access to needed work areas in accordance with the project schedule.

MIND PROBERRALPH J. STEPHENSON, P. E., P. C.
CONSULTING ENGINEER

<u>Agree</u>	<u>Disagree</u>	
		Talkative - chatty, always speaking
		Egotistic - self-centered, individualistic
		Empathetic - aware of another, compassionate
		Apprehensive - fearful, worried, afraid
		Unconventional - unusual, not the norm, rebellious
		Kind - gentle, considerate, warmhearted
		Rigid - still, unchanging, inflexible
		Impatient - excitable, unable to wait
		Sympathetic - comforting, understanding
		Reserved - restrained, self-controlled, shy
		Adventuresome - daring, willing to take chances
		Uncaring - lacking in warmth or sympathy
		Quiet - still, silent, not talkative
		Sarcastic - joking in a biting or cynical way
		Concerned - aware, caring, interested
		Distant - remote, inaccessible, removed
		Competitive - seeking to win, ambitious, achieving
		Apologetic - sorry, regretful, makes excuses
		Outgoing - sociable, friendly
		Independent - self-reliant, autonomous
		Sensitive - perceptive, touchy, nervous
		Meek - humble, submissive, patient
		Meticulous - extremely careful, scrupulous
		Suspicious - doubtful, distrust, uncertainty
		Fun-loving - playful, carefree, spontaneous
		Help-seeking - looking for assistance or comfort
		Charitable - generous, kind, giving
		Neighborly - friendly, amicable, familiar
		Achieving - accomplishing, persevering, striving
		Approval-seeking - wanting acceptance and praise
		Self-blaming - guilt, fault finding
		Precise - clearly defined, exact
		Guarded - kept safe, protected, watched over
		Carefree - free of worry or responsibilities
		Dependent - needing aid or assistance
		Comforting - soothing, relieved, consoling

<u>Agree</u>	<u>Disagree</u>	
		Affiliative - associated, connected
		Ambitious - enterprising, striving, eager
		Status-conscious - attentive to position and wealth
		Humble - reserved, self-conscious, modest
		Accurate - correct, clear-cut, beyond doubt
		Defensive - protective, shielded, careful
		Joking - witty, wisecracking, jesting
		Defenseless - unguarded, unprotected, needing shelter
		Consoling - solace, to cheer up
		Hospitable - welcoming, warm, receptive
		Goal-oriented - seeking success and achievement
		Seeks Attention - wanting to be noticed
		Obedient - compliant, amenable, dutiful
		Responsible - accountable, trustworthy
		Wary - cautious, watchful, on guard
		Playful - implish, mischievous, frivolous
		Trusting - confident, committed
		Protective - defended, guarded, careful
		Loyal - steadfast, faithful, devoted
		Striving - contending, exerting effort
		Seeks Recognition - wanting to be praised
		Yielding - deferring, relenting, gives in
		Tidy - neat, orderly, clean
		Secretive - covert, underhanded, concealed
		Pleasure-seeking - seeking gratification or delight
		Insecure - inadequate, unsure, shaky
		Nurturing - nourishing, supporting, fostering
		Individualistic - one-of-a-kind, independent
		Accomplishing - successful, to bring to completion
		Socially Striving - seeking respectability

Northern States Economic Data Systems Partnering Charter Meeting - disk 452 - . . 1

I. Charter for Northern States Economic Data Systems project - Alumni Room. . . 1

A. Mission., 1

B. Objectives - In recognition of the importance of achieving their mission all stakeholders, 1

1. Recognize and take into consideration the site problems that may be encountered, 1
2. Read and understand the contract documents., 1
3. *Prepare, publish, and use the organizational, authority and communications, 1
4. Be safety conscious., 1
5. Communicate in a clear fashion, being explicit about action items, due dates, and, 1
6. Communicate all proposed changes to the project clearly and in a timely fashion, to, 1
7. *Prepare, publish and implement project close out guidelines., 1
8. Be a good on-site and off-site neighbor., 1
9. Abide by agreed upon plans and schedules of work., 1
10. Resolve issues and disputes early and at the lowest possible level., 1
11. Properly manage their work, and respect the work of others., 1
12. Maintain continuity of key personnel throughout the life of the project., 1
13. Strive to understand and respect the views of others., 1
14. Properly prepare and submit requests for payment in a timely fashion., 1
15. Pay properly submitted pay requests promptly., 1
16. Communicate the charter provisions and intent to all project personnel., 1
17. *Prepare, publish and implement guidelines for effective and timely decision, 1
18. Do it right the first time!, 1
19. Focus on solutions not problems., 1
20. Live up to your commitments., 1
21. Keep administrative and paper work to a minimum., 1
22. *Prepare, publish and implement a partnering evaluation procedure., 1
23. Keep an open mind to suggested improvements in the project design., 1
24. Accept ownership and participation in job., 1
25. Be available., 1

II. Charter for Northern States Economic Data Systems project - Lakeview 1

A. Mission., 2

B. Objectives - In recognition of the importance of achieving their mission all stakeholders, 2

1. Recognize and take into consideration the site problems that may be encountered, 2
2. Read and understand the contract documents., 2
3. *Prepare, publish, and use the organizational, authority and communications, 2
4. Be safety conscious., 2
5. Communicate in a clear fashion, being explicit about action items, due dates, and, 2
6. Communicate all proposed changes to the project clearly and in a timely fashion, to, 2
7. *Prepare, publish and implement project close out guidelines., 2
8. Be a good on-site and off-site neighbor., 2
9. Abide by agreed upon plans and schedules of work., 2
10. Resolve issues and disputes early and at the lowest possible level., 2
11. Properly manage their work, and respect the work of others., 2
12. Maintain continuity of key personnel throughout the life of the project., 2

13. Strive to understand and respect the views of others., 2
14. Properly prepare and submit requests for payment in a timely fashion., 2
15. Pay properly submitted pay requests promptly., 2
16. Communicate the charter provisions and intent to all project personnel., 2
17. *Prepare, publish and implement guidelines for effective and timely decision, 2
18. Do it right the first time!, 2
19. Focus on solutions not problems., 2
20. Live up to your commitments., 2
21. Keep administrative and paper work to a minimum., 2
22. *Prepare, publish and implement a partnering evaluation procedure., 2
23. Keep an open mind to suggested improvements in the project design., 2
24. Accept ownership and participation in job., 2
25. Be available., 2

III. Meeting data and notes - Alumni and Lakeview merged. 2

- A. Date of charter meeting - Thursday, November 3, 1994, 2
- B. Time of meeting - 8:00 A. M. to 5:15 P. M., 2
- C. Location - Wisconsin Center, University of Wisconsin, Madison, Wisconsin, 2
- D. Team A - Alumni Room, 2
- E. Team B - Lakeshore Room, 3
- F. Those attending charter meeting, 3
 1. Conference Leaders and Planning Committee, 3
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 1. Material & equipment provided, 4
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- I. Table work resume - Lakeshore Room, 20
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- J. Charter mission drafts - Alumni Room, 33
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- K. Charter mission drafts - Lakeshore Room, 33
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Northern States Economic Data Systems Partnering Charter Meeting - disk 452 - merged material from both teams.

I. Charter for Northern States Economic Data Systems project - Alumni Room

A. Mission.

We, as the Lakeshore team, are committed to completing the NSDES project and will maintain good working relationships, the specified standards of workmanship, and strive for success for all participants.

The Alumni team will provide a quality product in a timely manner, within budget guidelines, and achieve profitability for all participants.

B. Objectives - In recognition of the importance of achieving their mission all stakeholders agree to:

1. Recognize and take into consideration the site problems that may be encountered by themselves and others.
2. Read and understand the contract documents.
3. *Prepare, publish, and use the organizational, authority and communications channels for the project.
4. Be safety conscious.
5. Communicate in a clear fashion, being explicit about action items, due dates, and other relative information.
6. Communicate all proposed changes to the project clearly and in a timely fashion, to all concerned.
7. *Prepare, publish and implement project close out guidelines.
8. Be a good on-site and off-site neighbor.
9. Abide by agreed upon plans and schedules of work.
10. Resolve issues and disputes early and at the lowest possible level.
11. Properly manage their work, and respect the work of others.
12. Maintain continuity of key personnel throughout the life of the project.
13. Strive to understand and respect the views of others.
14. Properly prepare and submit requests for payment in a timely fashion.
15. Pay properly submitted pay requests promptly.
16. Communicate the charter provisions and intent to all project personnel.
17. *Prepare, publish and implement guidelines for effective and timely decision making and issue resolution.
18. Do it right the first time!
19. Focus on solutions not problems.
20. Live up to your commitments.
21. Keep administrative and paper work to a minimum.
22. *Prepare, publish and implement a partnering evaluation procedure.
23. Keep an open mind to suggested improvements in the project design.
24. Accept ownership and participation in job.
25. Be available.

II. Charter for Northern States Economic Data Systems project - Lakeview Room

A. Mission.

We, as the Lakeshore team, are committed to completing the NSDES project and will maintain good working relationships, the specified standards of workmanship, and strive for success for all participants.

The Alumni team will provide a quality product in a timely manner, within budget guidelines, and achieve profitability for all participants.

B. Objectives - In recognition of the importance of achieving their mission all stakeholders agree to:

1. Recognize and take into consideration the site problems that may be encountered by themselves and others.
2. Read and understand the contract documents.
3. *Prepare, publish, and use the organizational, authority and communications channels for the project.
4. Be safety conscious.
5. Communicate in a clear fashion, being explicit about action items, due dates, and other relative information.
6. Communicate all proposed changes to the project clearly and in a timely fashion, to all concerned.
7. *Prepare, publish and implement project close out guidelines.
8. Be a good on-site and off-site neighbor.
9. Abide by agreed upon plans and schedules of work.
10. Resolve issues and disputes early and at the lowest possible level.
11. Properly manage their work, and respect the work of others.
12. Maintain continuity of key personnel throughout the life of the project.
13. Strive to understand and respect the views of others.
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15. Pay properly submitted pay requests promptly.
16. Communicate the charter provisions and intent to all project personnel.
17. *Prepare, publish and implement guidelines for effective and timely decision making and issue resolution.
18. Do it right the first time!
19. Focus on solutions not problems.
20. Live up to your commitments.
21. Keep administrative and paper work to a minimum.
22. *Prepare, publish and implement a partnering evaluation procedure.
23. Keep an open mind to suggested improvements in the project design.
24. Accept ownership and participation in job.
25. Be available.

III. Meeting data and notes - Alumni and Lakeview merged

- A. Date of charter meeting - Thursday, November 3, 1994
- B. Time of meeting - 8:00 A. M. to 5:15 P. M.
- C. Location - Wisconsin Center, University of Wisconsin, Madison, Wisconsin
- D. Team A - Alumni Room

E. Team B - Lakeshore Room

F. Those attending charter meeting

1. Conference Leaders and Planning Committee

- a) Phil Bennett, Univ. of Wisconsin-Madison, EPD
- b) Ralph J. Stephenson, Consulting Engineer, Ralph J. Stephenson, P.E.

2. Conference Participants

- a) Michael J. Aguilar, Aguilar and Associates, Inc.
- b) Vonda Alberson, Fanning/Howey Assoc., Inc.
- c) Dennis A. Archbold, Martin Marietta Energy Systems
- d) Jack Barnes, Whirlpool
- e) Jeremy Belcher, Roger Price Assoc.
- f) James Berger, Central & South West Serv. Inc.
- g) Steve Bevers, Phillips Getschow Company
- h) Russell E. Blume, 3 M
- i) Tom Boche, 3 M Company
- j) Mark Bray, Champion International
- k) Michael J. Brightman, SCM Consultants
- l) Ida Brooker, Boeing
- m) Wilson D. Bryce, Alconco Corp.
- n) Meredith L. Carter, Ivy Tech. State College
- o) James H. Corley, Jr., Martin Marietta Energy Systems
- p) Stephen Cox, Winzler and Kelly
- q) William A. Crawford, Burroughs Wellcome Co. Construction Mgmt. Services
- r) Thomas A. Dahlgren, Nebraska National Guard
- s) Darryl Dawson, Shurgard
- t) Glen Edmons, Wash. Publ. Power Supply Systems
- u) Billy Ferguson, Calif. Dept. of Water Resources
- v) Christine Gausden, Selfridges Ltd.
- w) Mike Gerrits, Phillips Getschow Co.
- x) David Goff, Protective Systems Inc.
- y) Glenn R. Green, T C I
- z) Charles L. Hancock, Nebraska National Guard
- aa) Gary D. Hansen, Wash. Publ. Power Supply System
- ab) Shawn Hughes, M K-Ferguson of Oak Ridge Co.
- ac) James Jensen, WI Dept. of Transportation, Bureau of Aeronautics
- ad) Danny Kluck, Nebraska National Guard
- ae) Bill Koenen, John Deere Horicon Works
- af) Steve Krajnik, Nebraska National Guard
- ag) Ken Kramer, T C I
- ah) Michael L. Krolczyk, C D Smith Construction
- ai) William Livingston, Burrough Wellcome Co.
- aj) Brad Love, The Estridge Cos. Inc.
- ak) Teresa Mc Bee, Kaiser Permanente
- al) Peter Mc Carthy, W R Grace & Co.
- am) Jim Mitchell, Kaiser Permanente

- an) Jim Monnerjahn, Shurgard
- ao) Pete Murphy, Champion International
- ap) Tom Newland, Pitkin County Government
- aq) James E. O'Connor, S C Johnson Wax Co.
- ar) Mary Jo O'Neil, Nine Piedmont Ctr.
- as) Lee Oliver, Shurgard Storage Centers
- at) Connie Pentti, Champion International Corp
- au) Paul Pierce, Boeing Co.
- av) Michael J. Pietila, Champion International
- aw) Dick Plawecki, Casteel Construction
- ax) Michael Rodriques, Shurgard
- ay) Scott Sandquist, Nebraska National Guard
- az) Mike Schindhelm, Foth and Van Dyke
- ba) Robert Shoff, Shoff Engineering Management
- bb) Tom Shurig, The Estridge Cos., Inc.
- bc) Kenneth G. Smith, Univ. Virginia Facilities Management
- bd) Sue Soller, Boeing Co.
- be) John Spingola, Kaiser Permanente
- bf) Danut Stanciu, Tanguay, Burke and Stratton
- bg) Jim Stevenson, Unifield
- bh) Amin Tejani, Kaiser Permanente
- bi) John Thune, GTE
- bj) Unknown, Selfridges Ltd.
- bk) Donald Vitek, Whirlpool Corp.
- bl) Marinus Westerham, 3M Co.
- bm) Steve White, City of Fort Collins Facilities
- bn) Solomon Williams, S.A. Williams Inc.
- bo) Dean Windquist, Brookfield Development
- bp) Mark Wolfer, Mark Wolfer and Associates, Inc.
- bq) Bob Yager, Nebraska National Guard

G. General meeting notes

- 1. Material & equipment provided
 - a) Partnering Charter Work Book - prepared by rjs
 - (1) Title sheet
 - (2) Agenda
 - (3) Partnering definition AGC
 - (4) Partnering definition CII
 - (5) Partnering definition - rjs
 - (6) Participant notebook outline
 - (7) Team groupings
 - (8) Mission, goals, objectives definition
 - (9) Route of dispute resolution
 - (10) Charter example
 - (11) Issue resolution

- (12) Evaluation method
- (13) Partnering evaluation example
- b) Flip chart and pens for each table
- c) Transparencies for each table
- d) Overhead projectors
- e) Screen
- f) Copying facilities

H. Table work resume - Alumni Room

1. Alumni Room - break out groups, their comments and their recommendations

- a) Table #1 - Owner/user group
 - (1) Group members (owner/user).
 - (a) Wilson Bryce, Mktg director & pm for remodeling
 - (b) Mark Wolfer, Remodeling field representative
 - (c) Dennis Archbold, Security Manager
 - (d) Greg Pierce, Field rep for new building
 - (e) Jim Jensen, VP of operations
 - (f) Meredith L. Carter, Data processing manager
 - (g) Jack Barnes, Facilities manager
 - (2) Problems others cause us (owner/user).
 - (a) Contractor does not understand sub's req'rmts, owner's requirements
 - (b) Inaccurate spec's
 - (c) Spec's do not meet owner's requirements
 - (d) Poor cost breakdown for budgeting
 - (e) Lack of follow-up, interim review of cd development.
 - (f) Proliferation of changes.
 - (g) Poor internal communication w/i owner's organization
 - (h) undefined owner's security req's.
 - (i) Design team not familiar with latest technology
 - (j) Untimely schedule updates.
 - (k) Poor GC Housekeeping.
 - (l) Contractor lack of sensitivity to owner's schedule.
 - (m) Sexual harassment.
 - (n) Lack of knowledge of permitting process.
 - (o) Environmental insults from construction activity.
 - (3) Problems we cause others (owner/user).
 - (a) Release of submittals
 - (b) Release of payments.
 - (c) Frequent changes.
 - (d) Indefinite schedule info, unrealistic schedule expectations.
 - (e) Unwilling to accommodate contractor's needs.
 - (f) Reluctance to approve cost increases.
 - (g) Do not respect communication channels.
 - (h) What part of "no!" don't we understand.
 - (i) Lack of timely decisions.
 - (j) Unclear line of authority no UDM! or too many.

- (k) No sense of humor-No fun.
- (l) Out of touch w/ realistic fees and construction costs.
- (m) Out of touch w/ realistic schedules.
- (n) Insurance req's too high.
- (o) Feel contractor/subcontractor profit margins too high.
- (p) Too many meetings.
- (q) Bid shopping.
- (r) Insisting on awarding to low bidder.
- (s) Unfair Prequalifications of bidders.
- (t) Restrictive Prequalifications of manufacturers, vendors.
- (u) Lack of coordination of owner's vendors/contractors w/ gen. contr.
- (v) Unrealistic quality expectations.
- (w) Too much paperwork.
- (x) Expectations of contractors to exceed beyond standards.
- (y) Excessive punch listing.
- (z) Excessive retainage req's.
- (4) Recommendations for improvement (owner/user)
 - (a) Maintain better communication.
 - (b) Pick up the phone before writing letter.
 - (c) Follow up w/ written doc.
 - (d) KISS
 - (e) Pay timely for value recv'd.
 - (f) Clarify chain of command (UDM)
 - (g) Establish clear submittal process.
 - (h) Respect all participants' needs.
 - (i) Establish issue resolution process.
 - (j) Maintain positive attitude.
 - (k) Respect chain of command.
 - (l) Implement project evaluation procedure.
 - (m) Jointly create project schedule.
 - (n) Jointly monitor/update project schedule.
 - (o) Open sharing of project budget info.
 - (p) Promote/commit to honesty.
 - (q) No hidden agendas.
 - (r) TQM: Create and implement philosophy/procedure.
 - (s) Promote/maintain project safety.
 - (t) Cooperate w/ design prof in achieving code compliance.
 - (u) Cooperate w/ contractor in complying w/ environmental regulations.
 - (v) Willing to accept/review value engineering substitutions.
 - (w) Establish reasonable project meeting schedule.
 - (x) Proper dissemination of proj info/communication network.
 - (y) See #4.
- b) Table #2 - Mechanical & control contractors.
 - (1) Group members (mechanical & control contractors).
 - (a) Chrisine Gausden, President - Brown Mech

- (b) Jim Corley, Field Superintendent - Brown Mechanical
- (c) Mike Schindhelm, Estimator & Project manager - Brown mech
- (d) Jim Monnerjahn, Project manager - Controls, Inc.
- (2) Problems others cause us (mechanical & control contractors).
 - (a) Clarity of information: design drawings & specifications
 - (b) Gen Contractor division of work responsibilities: mechanical and electrical
 - (c) Clear lines of communication
 - (d) Co-ordination/sequence/schedule of working
 - (e) Priority/Hierarchy of works
 - (f) Non response to changing site conditions
 - (g) Sufficient notice reference purchase order.
 - (h) Response time reference approval of submittals.
 - (i) Definition of staging/storage of materials.
 - (j) Speed of payments-when?
 - (k) Equipment provided by others.
 - (l) Breakdown of payment.
 - (m) Release of retention.
 - (n) Clarify commissioning, handover, warranty period.
 - (o) Preparation of site: safety standards, security of site.
 - (p) Procedures reference design changes: Instruction & payment
 - (q) Inspection Authorities
 - (r) Response to RFI's
- (3) Problems we cause others (mechanical & control contractors).
 - (a) Labor/Unions
 - (b) Orders ref. materials too late
 - (c) Substitute materials without permission
 - (d) Block access routes debris/waste remains on site unsafe/incorrect storage.
 - (e) Late payment submissions.
 - (f) Turnover personnel.
 - (g) O/M manuals, operating instructions slow follow up in warranty period.
 - (h) Responsibility for safety/environmental regs.
 - (i) Commissioning /testing not timed.
 - (j) Lack of site labor & supervision.
 - (k) Absence from progress meetings.
 - (l) Cost information-slow response.
 - (m) Change in location of equipment.
 - (n) Management of subs.
 - (o) Planning layouts of systems.
 - (p) Narrow-minded.
- (4) Recommendations for improvement (mechanical & control contractors)
 - (a) Communicate
 - i) GC and Union and Owner (Agreement pre start)
 - ii) Attend progress meetings.
 - iii) Provide adequate site supervision and labour force.

- iv) Improve internal/define chain of command to others-changes.
- v) orientation of (new) personnel, env. regs., project planing with personnel.
- (b) Liaison/Coordinate
 - i) Cooperate with scheduling.
 - ii) Define critical path.
 - iii) Recognizing critical path of others.
 - iv) Better management of subs.
- (c) Submittals
 - i) Identify substitutions up front
 - ii) Timely payment submittals
 - iii) Identify cost variations.
- (d) Site
 - i) Agree defined working/storage/clean up areas with GC
 - ii) Safe site/Good housekeeping
- (e) Commissioning/testing scheduled on manuals, operating instructions provided upon completion efficient follow up in warranty period.
- c) Table #3 - Design group & testing
 - (1) Group members (design group).
 - (a) Brad Love, Field inspector - L & M
 - (b) Vonda Alberson, Project manager & M/E consultant - Loring & Metzger
 - (c) Steve Cox, Project manager - L & M
 - (d) Bob Shoff, President & CEO - L & M
 - (e) Billy Ferguson, Geotechnical - Field & project engineer
 - (f) Eric Wagner, Designer - L & M
 - (2) Problems others cause us (design group).
 - (a) Contractor not schedule submittal
 - (b) Contractor doesn't follow submittal schedule
 - (c) Contr doesn't review doc's before commencing const.
 - (d) Contr doesn't review shop dwgs before submitting to Arch.
 - (e) Contr. doesn't correct non conforming work (work that doesn't corresop to plans and specs)
 - (f) Contractor has slow response to filed correspondence
 - (g) Contractor sends too many RFIS
 - (h) Contr submits non spec items
 - (i) Contr doesn't identify proposed substitutions
 - (j) Contr does unapproved changes in field.
 - (k) Contr doesn't give timely notice for testing/sampling, etc.
 - (l) Contr pay apps inaccurate or overstated
 - (m) Contr bypasses established (specified) routes of communication
 - (n) Owner desire for changes untimely
 - (o) Owner doesn't reimburse design team I.l.a.w. contracts-untimely.
 - (p) Owner resists paying for design changes.
 - (q) Owner slow in making necessary decisions
 - (r) Owner bypasses routes of communication.

- (s) Owner doesn't have reasonable contingency fund.
- (t) Owner tries to pass cost of value added design changes onto Arch/Engr
- (u) Computer & ffe vendors don't coord w/ design
- (v) Testing & analysis not submitted in timely manner
- (w) Req'd. testing not completed.
- (3) Problems we cause others (design group)
 - (a) Ambiguous contract documents.
 - (b) Slow decisions.
 - (c) Unrealistic product specifications.
 - (d) Unconstructionable details
 - (e) Poor definition of standards of quality (Nit-picking)
 - (f) Late arrival of inspectors
 - (g) Lack of permits when promised.
 - (h) Errors & admissions in contract.
 - (i) Unwillingness to consider suggestions/alternatives from contractors.
 - (j) Architect's BIG Ego.
 - (k) Disapproving substitutions without cause.
 - (l) Bypassing channels of communication/chain & command.
 - (m) Slow approval payment requests.
 - (n) Don't Admit mistakes/lack of Culpability.
 - (o) Contract documents don't conform to code.
 - (p) Field personnel not arriving at site w/ proper safety equipment.
 - (q) Unrealistic specified dates for completion.
 - (r) Additional fees for design services during construction.
 - (s) Lack of understanding of owner's/users needs.
 - (t) Lack of field/construction experience.
 - (u) Trying to get \$\$ for our own design errors.
 - (v) Don't properly accommodate computer/ff&e in design.
 - (w) Poor coordination of buildings systems.
 - (x) Don't address environmental/regulatory requirements in design.
 - (y) Over-design/conservatism
 - (z) Lack of understanding of code/regulatory requirements of local enforcing agencies.
 - (aa) "Flip-flopping" on decisions.
 - (ab) Design changes too late in construction process.
- (4) Recommendations for improvement (design group).
 - (a) Contractor prepares realistic submittal schedule and follows it.
 - (b) Contractor develops procedure to review construction documents prior to starting work and follows it.
 - (c) Contractor develops procedure to review submittals prior to submitting them and follows it.
 - (d) Contractor documents how non-conforming work is to be corrected.
 - (e) Stop changing the Ws H's and talking while we're trying to think.
 - (f) Develop a comprehensive filed documentation system for RFIs, COs etc..

- (g) Contractor identifies and discusses non-spec. item/substitutions/filed changes (prior to submittal execution)
 - (h) Develop a value engineering change proposal process.
 - (i) Contractor identifies (and follows) testing and inspection activities in construction schedule.
 - (j) Jointly develop payment app. schedule and procedures and follow them.
 - (k) Follow established chain of communications/command
 - (l) Owner/architect/contractor meet to establish "wish list" and mechanism to make changes during construction.
 - (m) Pay architect on time (or early... better yet, in advance).
 - (n) Establish owner contingency fund and procedures for using it.
 - (o) Recognition by all parties that contract documents are never perfect and that changes are inevitable.
 - (p) Hold timely coordination meetings with other prime contractors and computer, ff&e vendors.
 - (q) All project team members accept responsibility for actions and decisions. Conflicts to be resolved fairly and in a timely manner.
 - (r) Contractor to notify architect of conflict, constructibility problems at earliest possible time.
 - (s) Hold preconstruction/preinstallation conferences for each trade/system to review documents prior to executing work (include utilities, regulatory bodies when applicable)
 - (t) Talk to each other....everybody.
 - (u) Provide field inspection personnel with proper experience and equipment.
 - (v) Develop and follow an alternate dispute resolution process.
 - (w) Architect to take class in "humility" and working well with others.
 - (x) Contractor to take class "How to manage difficult people."
 - (y) Take responsibility for the information we receive as well as what we provide. (i.e. clarify and question until we understand it.)
 - (z) Don't Ass-U-Me.
- d) Table #4 - Computer systems & ffe contractors
- (1) Group members (computer systems & ffe contractors).
 - (a) Marinus Westerham, Project manager - Efficiency Design, Inc.
 - (b) Mary Jo O'Neil, Project manager for installation - Efficiency Design, Inc.
 - (c) Peter Mc Carthy, Space designer - Datacomp, Inc.
 - (d) Mark Vosika, John Spingola, Computer hardware project manager - Datacomp, Inc.
 - (2) Problems others cause us (computer systems & ffe contractors)
 - (a) Site not ready
 - (b) Short lead time for HD Ware
 - (c) Poor trades scheduling
 - (d) Change in system req. arch. design for computer hardware requirements
 - (e) Inspection scheduling/trade overlap
 - (f) Schedule delays

- (g) Request for uncontracted service/product
- (h) Trade inflexibility
- (i) Owner ego
- (j) Inarticulate chain of command
- (k) Failure to keep proper sequence of work flow
- (l) Sloppy workplace
- (m) Design errors/omissions
- (n) Organizational change
- (o) Security
- (p) Exclusion from early project mtgs.
- (q) Self inclusion from project mtgs.
- (r) Damage from other trades
- (s) Diff. in as built vs. plan dimensions
- (t) Adequate (or lack of) power for testing
- (u) Site access
- (v) End date time crunch
- (3) Problems we cause others (computer systems & ffe contractors).
 - (a) Changes in project team.
 - (b) Incomplete shipments.
 - (c) Unauthorized substitutions.
 - (d) Unreliable lead times.
 - (e) Price increases.
 - (f) Improper resource scheduling.
 - (g) Poor close-out documents.
 - (h) Reluctance to admit "we" create problems.
 - (i) Pointing fingers instead of resolutions to problems.
 - (j) Early delivers.
 - (k) Unscheduled deliveries-no one on site to accept.
 - (l) Poor documentation of substitutions.
 - (m) Poor follow-up service.
 - (n) Lack of owner training.
 - (o) Late and inaccurate shop drawings.
 - (p) Lack of honesty.
 - (q) Elitism/Ego.
 - (r) No interest in job meetings.
 - (s) Damaging work in place.
 - (t) Unavailability for communication.
 - (u) No clean up.
 - (v) Using "other" tools and equipment.
 - (w) Non-construction site sensitive personnel : smoking, etc...
 - (x) Not safety conscious.
- (4) Recommendations for improvement (computer systems & ffe contractors).
 - (a) Maintain proj team consistency.
 - (b) Proactive about attending job meetings.
 - (c) Offer staging plan for receipt of deliveries.

- (d) Timely work material submittal.
- (e) Guaranteed lead times and pricing.
- (f) Open-minded, team work mentality.
- (g) Adequate staffing-during and after project.
- (h) Complete and accurate close-out documents.
- (i) Earlier involvement in project.
- (j) Flexibility to accommodate other trades.
- (k) Site sensitive and safety trained staff.
- (l) Properly equipped staff.
- (m) Present solutions to problems rather than denying them.
- (n) Honesty.
- (o) Follow "guides" to ethical decision making.
- e) Table #5 - General contractor.
 - (1) Group members (general contractor).
 - (a) Mike Brightman, Vice president - T & G
 - (b) Ken Kramer, President - T & G
 - (c) Steve Bevers, Project manager - T & G
 - (d) John Thune, Field superintendent - T & G
 - (2) Problems others cause us (general contractor).
 - (a) OWNER CAUSED PROBLEMS
 - i) Too Many Meetings
 - ii) Meetings too Long
 - iii) Slow Response on Shop Drawings
 - iv) Program Changes by Owner
 - v) Owner Does Not Communicate His Expectations to the Construction Team.
i.e. Schedule
 - vi) Interference with Construction Process
 - vii) No chain of command established.
 - (b) AE. Caused Problems
 - i) Outdated Specs
 - ii) Poor Definition of Work
 - iii) Conflicting documents
 - iv) Unwillingness to accept alternatives
 - v) Slow Response on submittals/change orders, etc..
 - vi) Excessive Punch List
 - (c) SUB Caused Problems
 - i) Slow submittals Lack of Qualified supervision
 - ii) Sub doesn't show up.
 - iii) Uncooperative with other contractors
 - iv) Poor clean up.
 - v) Poor close out documentation.
 - vi) Won't finish project
 - vii) Doesn't show up at meetings.
 - viii) Violates chain of command

- (d) Problems Caused By Others
 - i) Suppliers don't deliver on commitments
 - ii) Testing agencies don't show
 - iii) No control of other primes
- (3) Problems we cause others (general contractor).
 - (a) Doesn't think he has problem. Won't admit problem
 - (b) Won't provide realistic schedule.
 - (c) Miss critical dates.
 - (d) P.M. is profit driven.
 - (e) Demanding and arrogant.
 - (f) Lack of c.o. backup documentation.
 - (g) Poor project mgmt.
 - (h) Unilateral decision process.
 - (i) Untimely payment to subs and suppliers.
 - (j) Not responsive to owners requested changes.
 - (k) Asking for concessions.
 - (l) Poor coord. of site laydown.
 - (m) Inequities.
 - (n) Won't attend regular scheduled meetings.
 - (o) Verbal changes not properly documented.
 - (p) Too few portapotty.
 - (q) Bid shopping.
 - (r) Wants to substitute every thing.
 - (s) Unsafe work practices.
 - (t) Doesn't define a chain of command.
 - (u) No control of as-built documents.
 - (v) Job sup't not reachable.
 - (w) No concern for dust control.
 - (x) Lack of space control.
 - (y) Doesn't know the spec.
 - (z) Won't take responsibility for subs damage.
- (4) Recommendations for improvement (general contractor).
 - (a) Establish and implement a communication system.
 - (b) Create and work to change milestone schedule.
 - (c) Involve all parties in sched. development.
 - (d) Review submittals before submission to A/E
 - (e) Be responsible for subcontractors.
 - (f) Provide donuts and coffee at meetings.
 - (g) Implement a doc. control system.
 - (h) Establish project/jobsite rules and expectations.
 - (i) Identify and resolve conflicts in a timely manner. Set up a proper meeting protocol.
 - (j) Hold jobsite safety meetings.
 - (k) Properly staff the CM team.
 - (l) Process payments in a timely manner.

- (m) Be responsive to owner requested changes.
- (n) Provide detailed breakdown for CO request.
- (o) Respect all team members.
- (p) Offer to provide a constructability review B/A bid.
- f) Table #6 - Electrical contractor
 - (1) Group members (electrical contractor).
 - (a) Martin Rogers, President - Powers Electrical
 - (b) Michael Connolly, Project manager - Powers Electrical
 - (c) Steve White, Field superintendent - Powers Electrical
 - (2) Problems Others cause us (electrical contractor)
 - (a) Incomplete information
 - (b) Late design information
 - (c) Early changes to scheme by owners
 - (d) Lack of or no scheduling by GC.
 - (e) Late design by specialist
 - (f) Poor G.C. management
 - (g) Late approval of drawings
 - (h) Poor performance by specialist
 - (i) Direct contact-specialist to owner or GC-poor communication
 - (j) Late introduction of numbering system and no coffee
 - (k) Lack of communication routes
 - (l) Lack of time for preordering
 - (m) Late Inst. to proceed
 - (n) Price increases by suppliers
 - (o) Site Not ready
 - (p) Bad site management
 - (q) Poor site facilities/ coffee still not here
 - (r) Labor problems-Unions or lack of
 - (s) Late payments
 - (t) Late Changes
 - (u) Other Contractors in work area
 - (v) No confirmation of instruct. verbal
 - (w) Too many meetings
 - (x) Testing delayed
 - (y) Inspections not completed
 - (z) Utilities late
 - (aa) Use of lighting before completion
 - (ab) Late release of retentions
 - (ac) Damage caused by other trades
 - (ad) Work covered up prior to inspection
 - (ae) Close out procedures not clear
 - (af) Coffee still not here, terminate contract
 - (3) Problems we cause others (electrical contractor).
 - (a) Select poor management team.
 - (b) Provide drawings late.

- (c) Refuse to coordinate info with other contractors.
- (d) Try to substitute cheaper equipment.
- (e) Unable to control our own labor.
- (f) Do not control off site production and deliveries.
- (g) Cannot control specialists because of lack of knowledge.
- (h) Always late providing info for variation pricing.
- (i) Always complaining about others and site facilities.
- (j) Don't issue drawings on time before or after approval.
- (k) Refuse to work to programme
- (l) Pay suppliers late.
- (m) Will not clear voids when asks.
- (n) Leaves cardboard boxes all over the site.
- (o) Electricians never want to wear hard hats.
- (p) Refuse to provide temp and power/light.
- (q) Always mark B.W. Holes and chases in wrong position.
- (r) Don't provide equip mag starters.
- (s) Never protect main panels.
- (t) Walk on top of mech equip to fix lights.
- (u) Pull down suspended ceilings to fix forgotten light fittings.
- (v) Mark out extra chases on completed walls or exposed conduit.
- (w) Take labor and management off site before completion.
- (x) Never return to complete defects.
- (y) Always submit a claim.
- (4) Recommendations for improvement (electrical contractor).
 - (a) Provide top quality management team.
 - (b) Provide good skilled labor.
 - (c) More patient about coffee.
 - (d) Observe safety obligations.
 - (e) Issue drawings on time.
 - (f) Cooperate with GC and Subs.
 - (g) Attend project meetings.
 - (h) Pay suppliers on time.
 - (i) Respect the work of other subs.
 - (j) Support an ADR process.
 - (k) Reduce errors.
- g) Table #7 - Partnering guests - utility and public sector representatives
 - (1) Group members (partnering guests).
 - (a) Charlie Haddaway, Building official - Telitreck, N. D.
 - (b) Jim Stevenson, Project Engineer - Power & light
 - (c) Amin Tejani, Gas & utility
 - (d) George Wight, Economic Development Officer - City of Telitreck
 - (e) Teresa Mc Bee, North Dakota Telephone Company
 - (f) Jim Mitchell
 - (g) David Goff

- (2) Problems Others Cause Us (partnering guests)
 - (a) Right Documents for Payment of Grant
 - (b) No Street Address Provided
 - (c) Not called to make inspection at right time
 - (d) Plans changed copy not provided to B.O.
 - (e) Not clear on requirements. Unrealistic budget for design of utilities
 - (f) No consensus on utility entrance
 - (g) Utilities not in design and construction loop
 - (h) Unrealistic due date
 - (i) Incompetent engineer
 - (j) Construction perform outside of latest codes
 - (k) Need progress reports for grant payments that conform to local, state & federal standards.
 - (l) Not clear on utility service requirements
 - (m) Insufficient utility capability to meet service requirements-power, gas, voice, data, traffic flow
 - (n) Site access
 - (o) Noise beyond code on generator back-up.
 - (p) Temporary utilities demand and payments
 - (q) Design decisions made without approval by authority having jurisdiction (AHJ)
 - (r) Indiscrete social behavior threatens grant
 - (s) Late design documents
 - (t) Late design revisions
 - (u) Code deficiencies not acknowledged by designer
 - (v) Request for building permit without furnishing plans and specifics
 - (w) Site in flood plain
 - (x) Site contaminated
 - (y) Environmental assessment insufficient
- (3) Problems we cause others (partnering guests).
 - (a) Inspectors do not convey to others what they expect from them.
 - (b) Inspectors show up unexpectedly.
 - (c) Utilities more concerned with policies and procedures than work completion.
 - (d) Inspectors & big engineers on vacation.
 - (e) Nitpicking details for grant payment.
 - (f) Utility crews won't work in bad weather conditions.
 - (g) Utility crews have different work hours.
 - (h) Utility crews don't respect job site.
 - (i) Late or no-show at meetings.
 - (j) Lack of utility vision.
 - (k) Not returning telephone calls in a timely manner.
 - (l) Grant money out of phase with project.
 - (m) Refuse to participate in partnering process.
 - (n) Hook ups for utilities are late.

- (o) Poor workmanship, (valleys in lawn).
- (p) Bring hazardous waste on site as fill.
- (q) Work off old revisions.
- (r) Utility connections don't bond to contractors' stubs.
- (s) Power provided - overhead power instead of underground.
- (t) Utilities keep cutting each others lines.
- (u) Arrogant, bureaucratic attitudes.
- (v) Unmarked utilities.
- (w) Inaccurate survey drawings.
- (x) Lack of written confirmation.
- (y) Leave trenches open obstructing site access.
- (4) Recommendations for improvement (partnering guests).
 - (a) Take ownership and participation in job.
 - (b) Communicate clearly and promptly.
 - (c) Take role in scheduled meetings.
 - (d) Sign partnering agreement.
 - (e) Provide a lead agency.
 - (f) Actively coordinate with other partners.
 - (g) Provide written commitments and schedules.
 - (h) Bend work hours to suit reasonable proj. demands.
 - (i) Reduce grant approval schedule.
 - (j) Communicate inspection sched. and arrival on site.
 - (k) Ensure latest revision is enacted.
 - (l) Improve construction quality AMA as-built in document.
 - (m) Be sensitive to proj. schedule on permit approval.
 - (n) Be positive.
 - (o) Gain vision and take pro-active stance with business.
 - (p) Increase accessibility to partners.
 - (q) Involve utilities management in proj.
 - (r) Adopt a positive response to req changes.
 - (s) Provide locating services in a timely manner.
 - (t) Assist in providing temporary utilities.
 - (u) Provide timely yes/no responses to grant application.
 - (v) Uncomplicate the process.
- 2. Alumni Room - Individual mission statements prepared by participants
 - a) Mission statement #1
 - (1) MS2
I strive to deliver a quality product while receiving reasonably managed and scheduled work, timely closeout, full payment and budget fulfillment.
 - (2) JO1
Complete the mechanical portions of this project meeting the specified level of quality within schedule and budget.

- (3) G80
To provide an adequate service within given time and financial constraints; to ensure future workload concurrent with maximum profit.
- (4) 587
As project manager it is my mission to properly co-ordinate electrical and mechanical installations of utility and equipment in the proper stages to bring equipment on line in a timely manner.
- (5) A1A
I want completed computer systems for processing and transmission of data to clients to be secure from unauthorized use and to provide error-free information.
- (6) 868
To complete the new NSEDS building on time and under budget. The building should meet or exceed all occupants expectations and requirements.
- (7) TCA
To achieve the best quality in this project it is agreed that we will all work as a team, provide timely feedback and to actively strive to help the process align.
- (8) 13M
To have all necessary information for contractors and A.E. to complete job on time and within budget guidelines, with the least amount of facilities disruption.
- (9) JB1
Build a new corporate headquarters for NSEDS which incorporates the latest technology and makes a bold design statement so that everyone will know that we are a high tech corporation.
- (10) 471
To achieve a completed project consistent with established quality, within time requirements and equitable profitability for all participants in a safe/secured environment through mutual cooperation of all.
- (11) BOA
Provide a quality facility and environment that accommodates my people's needs in concerns with the needs of the remainder of the company.
- (12) A42
To provide highest level of quality information and communication to ensure the unique interests of everyone involved in the building process.
- (13) VAA
The mission of this team is to work together in achieving a process for smoothly resolving problems to provide a high quality building/project on time and on budget.
- (14) LCC
A completed project which will: •Enhance long term business relationships between project participants. •Provide a significant asset to the local community. •Contribute towards achieving the owners mission statement.

- (15) 338
To produce a building that meets the owners needs and satisfies the artistic goas envisioned by the conceptual design while insuring an appropriate return on invested time and effort.
- (16) ESW
To design and construct a quality building within the budget and time frames given. To contribute a building that gives something back to the community.
- (17) 793
To provide required sampling, testing and deporting in a competent and timely manner and with a minimum of disruptions of contractor activities.
- (18) TMC
To provide the necessary voice and data service for the owner to be successful in their pursuits.
- (19) JMM
Provide client specified voice and data circuit access in a timely, cost effective and professional manner. Work in harmony with the owners, architects and contractors to ensure error free installation.
- (20) JDG
To provide telephone service in a timely, safe manner, in accordance with specifications and building codes. This is to be done in a change spirit of cooperation and goodwill.
- (21) III
I will provide communications up front of my requirements and participate in design reviews to ensure deficiencies during construction causing tear outs.
- (22) CLW
Provide agreed upon grant funds in a timely manner consistent with the project timing and as an attribute to NSEDS.
- (23) JAS
Understand the overall project schedule and technical requirements and manage the resources within my domain to meet all.
- (24) MJO
To supply a safe, functional project on time, within budget, and make a profit that complies with our in house business plan.
- (25) 777
Get in, get out, get paid!
- (26) 357
To listen to the owners and contractors needs so I can perform the best job possible in the agreed schedule according to the design.
- (27) TWK
Our mission is to act as required and to co-operate with all parties so that at the end of the project we will be proud and profitable.
- (28) KSL
We shall commit a service that equals or exceeds our clients expectations and meets the shared objectives in relation to communication, co-operation, management and financial control.

- (29) 92A
We are committed to work together with the A & E, G.C. and other Trades to produce a quality project, safely and on time.
- (30) 154
Provide an on time under budget project that is profitable to all involved parties. Create a goal oriented cohesive construction team to move in to the next phase.
- (31) ARC
Run a good job for career and monetary gain.
- (32) TCI
Provide the client with a quality building. Delivered on time and under the establish GMP contract.
- (33) IAI
Provide a well built, long lasting, community asset while maximizing profits.
- (34) M28
To provide a functional user friendly computer system that meets the company's long range Informational needs.

I. Table work resume - Lakeshore Room

1. Lakeshore Room - break out groups, their comments and their recommendations

a) Table #1 - Owner/user group

(1) Group members (owner/user).

- (a) Jeremy Belcher - Mktg director & pm for remodeling
- (b) Solomon A. Wilson - Remodeling field representative
- (c) Russ Blume - Security Manager
- (d) Mike Gerrits - Field rep for new building
- (e) Glenn Edmonds - VP of operations
- (f) Mike Aguilar - Data processing manager
- (g) Gary Hansen - Facilities manager

(2) Problems others cause us (owner/user).

- (a) All characters -- site safety
- (b) All characters -- site scheduling
- (c) all characters -- late occupancy
- (d) construction workers -- low/no operations interferences
- (e) electrical contractor -- minimize disruptions (advance notice outages)
- (f) architect, construction manager -- schedule of construction progress and budget
- (g) owner/contractor -- ultimate decision maker at site
- (h) all players -- have worker ID
- (i) all players -- no weapons, drugs, alcohol
- (j) all players -- controlled access
- (k) public -- no access
- (l) all players -- personnel vehicle search
- (m) all players -- privately owned vehicles off site
- (n) contractor -- progress report
- (o) contractor -- pay request data must be complete and timely

- (p) Architect/Engineer rep -- user group tours scheduled/controlled
- (q) all key personnel -- lack of site meeting representation
- (r) general contractor -- dust control
- (s) general contractor -- controlled access to existing buildings
- (t) general contractor -- night lighting signage at site
- (u) general contractor -- controlled material and laydown yard
- (v) general contractor -- inadequate supervision
- (w) general contractor -- loss of incentive after the award of the remodeling contract
- (x) general contractor -- lack of relocation plan
- (y) general contractor -- inflexible supervision
- (z) general contractor -- site communications poor
- (aa) late delivery of equipment/material
- (ab) design/owner -- unapproved changes
- (ac) design/owner -- slow approval of changes
- (ad) contractors -- disrupt community
- (ae) contractors -- inefficient site layout trailers
- (af) all parties -- punch list development/work off rate
- (3) Problems we cause others (owner/user).
 - (a) inflexible in regards to quality and specs
 - (b) unrealistic scheduling
 - (c) delay payments
 - (d) delay approval of changes to scope or sec.
 - (e) no disclosure of related job problems.
 - (f) rigid adherence to security issues
 - (g) adding scope without schedule adjustment
 - (h) lack of planning
 - (i) lack of meeting attendance
 - (j) no clear chain of command
 - (k) failure to read contract
 - (l) unrealistic quality expectations
 - (m) fail to follow chain of command
 - (n) unreasonable demands on contractor's resources
 - (o) bad record keeping
 - (p) whimsical changes in finishing details
 - (q) inflexible in regards to site access, site facilities and site utilities.
 - (r) we may expect gratuitous favors for personal use.
 - (s) slow punch list development/more than one punch list developed
 - (t) lack of overall direction
 - (u) excessive and untimely changes in design
 - (v) failure to accept responsibility for our own problems
 - (w) failure to communicate our final desires at the design stage (you should have known what we wanted)

- (x) failure to trust the technical capabilities, expertise, and integrity of the project team.
- (y) private arrangements with specific contractors, that may affect their performance or impact on the project
- (4) **Table 1: Recommendations for improvement (owner/user)**
 - (a) Be more open, and flexible when dealing with site problems
 - (b) thoroughly understand and read the specifications.
 - (c) identify our ultimate decision maker and establish a clear chain of command
 - (d) improve written communication transmittals (action items - due dates)
 - (e) establish a clear list of all parties who need project information and protocol for distribution
 - (f) monitor the project schedule, budget, and security
 - (g) avoid the addition of project scope without consulting all parties affected for cost, schedule or quality impacts
 - (h) read and review all contracts, sub-contracts, issued on site
 - (i) establish an experience/quality criteria prior to sub-contractor selection
 - (j) dedicate an administrative support staff to address paper work, payments, and communication.
 - (k) establish a clear documentation system for change orders, R.F.I.s and performance directives.
 - (l) form an advisory team made up of reps from all site participants to address security issues.
 - (m) attend all project meetings
 - (n) establish a clear and expeditious method to make and remedy the punch list.
 - (o) review all schedule and delivery issues at the weekly meeting.
 - (p) establish a clear safety policy.
 - (q) communicate all owner requirements at the early stages, in writing.
 - (r) be a good neighbor.
 - (s) review resumes of all key site personnel.
- b) **Table #2 - Mechanical & control contractors.**
 - (1) **Group members (mechanical & control contractors).**
 - (a) Bill Livingston - President - Brown Mech
 - (b) Tom Dahlgren - Field Superintendent - Brown Mechanical
 - (c) Shawn Hughes - Estimator & Project manager - Brown mech
 - (d) Jim O'Connor - Project manager - Controls, Inc.
 - (2) **Problems others cause us (mechanical & control contractors).**
 - (a) schedules - lack of
 - (b) bid shopping
 - (c) not being paid on time
 - (d) design problems
 - (e) late shop drawing approvals
 - (f) timely resolution of change orders
 - (g) availability of skilled labor

- (h) poor planning of schedules for subcontractors -- lack of management (schedules?) by prime contractor
 - (i) lack of space to store equipment and materials
 - (j) poor security on project site
 - (k) lack of temp services power
 - (l) late delivery of material
 - (m) availability of technical information for A/E
 - (n) too many changes -- can't make up their minds
 - (o) housekeeping -- others will not keep work area clean
 - (p) scheduling inspections/testing
 - (q) unreasonable expectations
 - (r) breakage by others
 - (s) rejection of "or equal" products
 - (t) safety on site
- (3) Problems we cause others (mechanical & control contractors).
- (a) slow shop drawing submittals
 - (b) not on established schedule
 - (c) make unauthorized changes
 - (d) submitting out of spec. submittals
 - (e) poorly defined RFI's
 - (f) slow procurement of material
 - (g) poorly staff the job
 - (h) poor workmanship
 - (i) slow/inaccurate payment requests
 - (j) slow paperwork: submittals, insurance
 - (k) non-attendance at meetings
 - (l) lack of on-site decision making
 - (m) poor housekeeping/safety practices
 - (n) refuse to work with and schedule with other trades
 - (o) being the problem not the solution
 - (p) poor management of our subcontractor
 - (q) not recording "as built's"
 - (r) not providing training and OM manuals
 - (s) failure to get permits
 - (t) poor quality control
 - (u) poor interpretation of spec's /drawings
 - (v) requesting nit-picking/nickel-dime change orders
 - (w) slow in processing/pricing changes/claims
- (4) Table 2: Recommendations for improvement (mechanical & control contractors).
- (a) support schedule development
 - (b) honor submittal schedule
 - (c) early problem identification: commitment to problem solving
 - (d) constant communication: suppliers, GC, A/E, subs, workers

- (e) early planning/constructability and reviews
- (f) positive job site management: housekeeping, safety, storage areas, adequate workers, siting, project documents (changes, "as built", manuals/training
- c) Table #3 - Design group & testing
 - (1) Group members (design group).
 - (a) Tom Boche - Field inspector - L & M
 - (b) Sue Soller - Project manager & M/E consultant - Loring & Metzger
 - (c) Deanl Winkvist - Project manager - L & M
 - (d) Darryl Dawson - President & CEO - L & M
 - (e) Dick Plawski - Geotechnical - Field & project engineer
 - (f) Scott Sandquist - Designer - L & M
 - (2) Problems others cause us (design group).
 - (a) program deficiencies
 - (b) untimely changes by owner
 - (c) poor communication in team (owner, contractor, jurisdiction?, designer)
 - (d) too many substitutions
 - (e) too many field generated design changes
 - (f) poor information on RFIs
 - (g) incomplete, untimely submittals
 - (h) lack of effective meetings (status of job)
 - (i) poor value engineering
 - (j) communication chain (mixed message)
 - (k) scope modifications - unnecessary
 - (l) unrealistic cost and schedule demands
 - (m) adherence to schedule by contractor
 - (n) expecting us to resolve subcontractor disputes
 - (o) accountability for decisions
 - (p) excessive requirements for field support causing budget overrun
 - (q) failure to recognize impact of design changes on ongoing work
 - (r) changes and unforeseen conditions
 - (s) failure to implement construction QC program
 - (t) late submission of proposals
 - (u) closeout and punchlist.
 - (3) Problems we cause others (design group).
 - (a) Quality control
 - (b) poor design team administration
 - (c) unrealistic expectations of contractor's efforts
 - (d) inaccessible design team members
 - (e) submittal turnaround time
 - (f) be more realistic re: punchlist requirements
 - (g) constructability of design
 - (h) insufficient design information on documents
 - (i) failure to reorganize existing field conditions
 - (j) authorship of design re: value engineering

- (k) underestimation of cost budgets
- (l) lack of identifying code requirements
- (m) complicated and excessive specifications
- (4) Table 3: Recommendations for improvement (design group).
 - (a) We can, we will and we shall : maintain open communication and focus on clear input and information
 - (b) host pre-submittal meeting, samples, data sheets, etc. to weekly progress meeting
 - (c) maintain competent/and consistant staffing through out project duration.
 - (d) maintain cimpetent and consistent staffing through out project duration.
 - (e) identify problelms (PL?? items) and resolve early.
 - (f) early structured involvement of user for progress review thorough close out
 - (g) will understand and respect other team members points of view: submittals (2 weeks typ.); payment APL??
 - (h) Will commit to timely turn around or priority submitted to maintain appr. project schedule.
- d) Table #4 - Computer systems & ffe contractors
 - (1) Group members (computer systems & ffe contractors).
 - (a) Dan Stanciu - Project manager - Efficiency Design, Inc.
 - (b) Lee Oliver - Project manager for installation - Efficiency Design, Inc.
 - (c) Tom Shurig - Space designer - Datacomp , Inc.
 - (d) Bob Yager - Computer hardware project manager - Datacomp, Inc.
 - (2) Problems others cause us (computer systems & ffe contractors).
 - (a) dimensions inaccurate
 - (b) inadequate raceways/conduits
 - (c) lack of good program documentation (clear)
 - (d) schedule is too loose (lack of detail)
 - (e) lack of timely owner/architect responses
 - (f) project not ready when we arrive
 - (g) poor housekeeping
 - (h) lack of maintenance on relocated equipment
 - (i) poor equipment inventory
 - (j) not notified of changes to space, elect. power, location within site, program
 - (k) not adequate environment (HVAC)
 - (l) installation time shortened due to delays of previous work
 - (m) work out of sequence
 - (n) owner co-op on shut down to relocate equipment
 - (o) slow payment
 - (p) slow shop drawing/submittal review
 - (q) material delivery problems
 - (r) incompetent staff (owner, arch. GC)
 - (s) input to design unheeded
 - (t) untimely resolution to open issues
 - (u) technology upgrades

- (v) communication problems due to contractual relationship
- (w) labor turnover
- (x) too many changes or too late in project
- (3) Problems we cause others (computer systems & ffe contractors).
 - (a) we have other projects - do not meet all schedule milestones
 - (b) highly technical field - we are inflexible
 - (c) we sometimes pay suppliers late
 - (d) do not communicate requirements (size/type)
 - (e) we don't like to field measure
 - (f) do not react quickly to changes
 - (g) incomplete submittals (late also)
 - (h) labor turnovers
 - (i) we are at the end of the job: how could we create problems for others??
 - (j) we blow-off meetings
 - (k) we submit inflated cost for changes. lump sum - fixed fee GMP
 - (l) "prima donna" syndrome -- our work comes first
- (4) Table 4: Recommendations for improvement (computer systems & ffe contractors).
 - (a) field check (new construction, existing equipment).
 - (b) early review of documents with feedback (prog. drawings, spec)
 - (c) develop and provide detailed schedule
 - (d) update detailed schedule and advise of impacts of delayed responses.
 - (e) timely and fair response to RFI's/CO's.
 - (f) monitor project status, maintain contact with project team, attend meetings.
 - (g) advise of our equipment environment conditions required (dust free, HVAC.)
 - (h) pro-actively advise project team of possible schedule problem and provide alternative solutions.
 - (i) participate in payment (our K) review process at established intervals.
 - (j) timely submittals, offer to participate in the review process.
 - (k) coach and direct project members to resources.
 - (l) establish employer positive reputation with employees and vendors.
- e) Table #5 - General contractor.
 - (1) Group members (general contractor).
 - (a) Ken Smith - Vice president - T & G
 - (b) Glenn Green - President - T & G
 - (c) Alan Crawford - Project manager - T & G
 - (d) Mark BrayField superintendent - T & G
 - (2) Problems others cause us (general contractor).
 - (a) testing agency does not commit to schedule
 - (b) A/E drawing coordination
 - (c) timely responses to value engineering items from A/E owner
 - (d) multiple drawing revisions at start of project
 - (e) no cooperation from other primes on schedule development

- (f) lay down areas and space allocation
- (g) parking areas and traffic control
- (h) change of scope by owner
- (i) subcontractors will not abide by safety roles.
- (j) safety compliance by other primes and owner reps.
- (k) no clear chain of command on project
- (l) no commitment to attending meeting
- (m) commitment of others to send proper personnel to critical meeting
- (n) timely response/turn around of change orders.
- (o) changing "mile stone" dates by owner
- (p) 16 unavailability of owner/AE reps.
- (q) no UDM on owner's side
- (r) excessive owner representation
- (s) slow responses to requests for information
- (t) inexperience of A/W rep.
- (u) design errors
- (v) timely shop drawing review
- (3) Problems we cause others (general contractor).
 - (a) failure to properly review submittals
 - (b) adherence to GC's part of schedule
 - (c) slow payment subs due to lack of capital
 - (d) inflexibility with subs/favoritism with subs
 - (e) on site prioritization of issues - time management
 - (f) unrealistic promises
 - (g) lack of sensitivity to owners operation
 - (h) improper management of subs. access and schedules.
 - (i) timely update of critical path
 - (j) failure to recognize impact of changes on all subs.
 - (k) failure to screen "or equals"
 - (l) poor enforcement of safety/quality standards.
- (4) Table 5: Recommendations for improvement (general contractor).
 - (a) mutually agree, adhere and commit to schedule
 - (b) accurate, complete and timely processing and distribution of information.
 - (c) be sensitive and responsive to the needs of the other team members'
 - (d) team commitment to the scope
 - (e) maintain a clean, safe secure worksite
 - (f) establish frame work for effective and timely decision making and conflict resolution.
 - (g) "Do it right the first time."
 - (h) focus on solutions not problems.
 - (i) commit experienced people and adequate resources
 - (j) process all payments quickly
 - (k) "walk the talk"
 - (l) maintain the owner's best interest

- (m) maintain the project budget by cost containment
- (n) "safety first."
- f) Table #6 - Electrical contractor
 - (1) Group members (electrical contractor).
 - (a) Mike Krolczyk - President - Powers Electrical
 - (b) Michael Rodriques - Project manager - Powers Electrical
 - (c) Steve Krajnik - Field superintendent - Powers Electrical
 - (2) Problems others cause us (electrical contractor).
 - (a) owners with unrealistic expectations re: budget and materials and schedules
 - (b) general contractor and owner make last minute changes and don't communicate that to us.
 - (c) poor scheduling and project management by gc.
 - (d) inconsistent construction documents, i.e., spec doesn't match prints
 - (e) untimely payments (delays)
 - (f) poor supervision/control of equipment and materials by gc.
 - (g) poor safety standards
 - (h) too much administrative bureaucracy. (time spent on excess meetings, paper, etc.
 - (i) value engineering problems -- incorporating entire scope of changes into the documents -- causing redesign, bid variation, etc. for us.
 - (j) local utility company has a backlog causing us delays, scheduling problems, etc.
 - (k) manpower shortage (no available electricians)
 - (l) lack of site security
 - (m) unclear closeout definition.
 - (n) supplier problems.
 - (o) gc's project manager won't return phone calls
 - (p) unclear chain of command
 - (q) gc's UDM (project manager) is not on job
 - (r) untimely approval of change orders
 - (s) unreasonable punch lists
 - (t) irresponsible employers.
- (3) Problems we cause others (electrical contractor).
 - (a) substitution of materials (unauthorized; excessive number of subs)
 - (b) behind schedule
 - (c) unscheduled power outages
 - (d) lack of continuing due to manpower turnover
 - (e) lack of project manager communication of changes to field electrician.
 - (f) electricians lack "team player" attitude
 - (g) messy work habits
 - (h) over optimistic about deadlines
 - (i) lack of attendance (by p.m.) at job meetings.
 - (j) using other's equipment

- (4) Table 6: Recommendations for improvement (electrical contractor).
 - (a) clarify expectations and communications with major players: construction document issues; major player "roles" defined; changes in scope; value engineering; open line of communication be responsible;
 - (b) establish project management guidelines (internal and external) and follow: regularly scheduled progress meetings; payment schedules/progress schedules; safety standards; resource control; streamline paperwork/admin. tasks (material submittals, change orders); completion guidelines (close out definition, punchlist expectations), conflict resolution.
- g) Table #7 - Partnering guests - utility and public sector representatives
 - (1) Group Members
 - (a) Tom Newland (building official - Telitreck, N.D.)
 - (b) James Berger (project engineer - Power & Light)
 - (c) Jim Seagren (Gas & Utility)
 - (d) None signed up (Economic Development Officer - City of Telitreck)
 - (e) Bill Koenen (North Dakota Telephone)
 - (f) Connie Pentti (North Dakota Telephone)
 - (g) Ida B. Booker (North Dakota Telephone Company)
 - (2) Problems others cause us (partnering guests).
 - (a) lack of planning
 - (b) lack of adequate notice
 - (c) lack of good specs for phone needs
 - (d) potential space constraints
 - (e) capacity for future communication needs
 - (f) inadequate design of utility system
 - (g) lack of schedule planning
 - (h) lack adequate installation and testing time
 - (i) not ready when they say they are
 - (j) re-doing tasks
 - (k) submission of incomplete permit applications
 - (l) stated ignorance of code req.
 - (m) failure to communicate changes
 - (n) failure to provide a safe site
 - (o) failure to provide permits, plans/specs on site
 - (p) inaccurate information concerning existing or newly placed conditions
 - (q) undefined pay application procedures for utilities
 - (r) who is in charge? Who is the UDM?
 - (s) delays caused by slow turn around of shop drawings
 - (t) verbal approvals and authorizations to proceed
 - (u) did not insure compatibility of system equipment
 - (v) personality conflicts between subs
 - (w) inflexible scheduling by subs
 - (x) contractors going beyond the field of expertise
 - (y) public sector companies have different priorities

- (z) sub gets fired and this delays the job
- (aa) utility and gov. inspectors companies don't get the respect subs do on the job (not considered part of the team).
- (3) Problems we cause others (partnering guests).
 - (a) don't make it to the site when we say we'll be there.
 - (b) expect communication to flow faster then it does/can.
 - (c) permit approvals can be turned around faster
 - (d) sometimes other work is impacted by our work (damaged or broken).
 - (e) building inspectors can be too picky
 - (f) personnel changes affect schedule (learning curve)
 - (g) emergencies delay public companies
 - (h) when emergencies occur, the GC is not notified.
 - (i) for some reason we're not there when we're supposed to be.
 - (j) our working hours not as flexible as they need to be.
- (4) Table 7: Recommendations for improvement (partnering guests).
 - (a) develop a "planning checklist" and conduct planning meetings. Planning process must include all of the players.
 - (b) method or process of communication must be established early in the project as contact persons designated: * "key contact list" includes UDM for each discipline; *GGC send out daily status report.
 - (c) all trades must review and understand the plans and specs and have ability to resolve problem.
 - (d) use daily job meetings to track progress and propose next steps. "score board"-- what's done; what will be done today; what will be done tomorrow
 - (e) bring local i inspectors in early to review plans and define application process. Include government and utilities in the planning process.
 - (f) establish "chain of command" for change orders and shop drawings includes: who manages CO's and shop drawings; who approves and when; how long everyone has to review and approve.
 - (g) make sure that the contract insures a safe site and safe working conditions: safety plan, safety inspector; safety meetings;
 - (h) define all pay application procedures for all trades and utilities;
 - (i) promote team work early on. Get over personality conflicts; review 10 commandments.

2. Lakeshore Room - Individual mission statements prepared by participants

a) Mission statement #1

(1) rhs

The most important thing to successfully complete this project concerning the telephone company is to be able to have communication lines, whether they be from computer modems, telephone lines or any lines involved with communication operating properly and without interruption for our customer needs.

- (2) ???
To complete this project on time, on budget on, schedule to owner's satisfaction maintaining good working relations with other participants, and make a profit.
- (3) ATS
I would like to impress the owner so much that he uses me again on other projects and refers me to others.
- (4) 4jt
Deliver a smooth installation, no delays/no "come cacks," fully operational system on time, a satisfied happy owner willing to give referral and maintenance contract.
- (5) DWA
The telephone company commits to install the specified equipment and service as scheduled, within budget and with complete cooperation among other participants.
- (6) 624
Telephone company: To complete the project on time within the budget with the least amount of interferrances from and to others while meeting the needs and expectations of our customer.
- (7) UM1
To insure the health, safety and welfare of the future users of the building in a manner that does not significantly impact the owners schedule or financial resources.
- (8) 7JB
To be proud of a job well done, and have the respect of peers in the trade as well as maintain adequate profitability.
- (9) 192
GBet my company's part of this construction project competed at the least possible cost to my company.
- (10) HHR
To estabvlish and maintain an open line of communication between myself, my team, and the general contractor in order to efficiently deliver the highest standard of workmanship to complete this project.
- (11) CDS
I hope to achieve customer satisfaction (owner, GC) by completing my project on time, safely, and under budget.
- (12) buz
Successfully complete our responsibility to the contract as designed on time and within budget to promote pride in workmanship and secure a decent profit.
- (13) 975
Deliver a project which meets and exceeds our client's expectations for timeliness, budget, scope, and specifications. As contractor was will provide a safe, clean, owner-sensitive environment throughout the construction period.

- (14) 333
To complete this project in a cost-effective manner, to maximize my bonus, insure the procurement of the renovation contract, and obtain a promotion.
- (15) MAB
Project to be completed on time and meet the owner's expectations, no safety injuries or near misses with anyone working on the project. For my owner to be happy with the project and my performance.
- (16) KGS
Perform the ovrk so that I will be proud of it, the owner will be satisfied with it, and it is financially successful for all.
- (17) SAW
I would like to have a job that pleases the owner. That is, it is within budget, without construction cost over-runs; the faiclity operates functionally for all the employees and top management; a service of the nature that not only makes the owner happy but it makes me look good also. Witht his there are more repeat projects.
- (18) 3A3
My goal is to provide a safe and timely project, using methods that assure superior quality within the budget limits assigned.
- (19) PEC
Provide safe, cost-effective, flexible, expandable and functional facilities for NSED's home office staff in support of the corporate mission.
- (20) TR6
I want to motivate the design team and all contractors so that they all work together for the good of the owner as well as themselves.
- (21) R3B
As the owner's security manager, I want to maintain secutiry, good order, and discipline in keeping with company policy and expectations.
- (22) MJA
That this project competees on t ime, within budget, and without serious injury to any project participant.
- (23) GL1
Get new building built and existing building remodled with a minimum of disruption to plant operations. The quicker the better.
- (24) 4133
To allow my attitude, knowledge and experience to be an influence on the project delivery system, to the highest expectations for the project and team.
- (25) 539
Provide timely and accurate design support and documentation to facilitate flawless project commissioning which fully meets the owner's expectation while maintaining project budget and schedule.
- (26) XSS
For each partnering player to gain a better understanding of other players' needs, which allows subsequent improvement in the construction process during this project.

- (27) D44
Focus on and succeed in the effort of coordinating stronger communication and understanding among the entire development team throughout the project time frame.
- (28) T5B
Compelte the project to me satisfaction of the owners, the users, my office and myslef with integrity of design and pride of workmanship.
- (29) RWP
To resolve fifferences quickly and fairly through positive written and/or verbal communication.
- (30) WCL
I want to make my estimated financial profit while completing the project with specified quality, on time, and in a position to be recommended for repeat business from the general contractor and owner.
- (31) 10-4
My mission and goal as a control contractor on this project will be to provide a working control system for the HVAC. It will be install per the contract document and provide a fair profit for my company.
- (32) K01
Complete the project on time with minimal problems and within the budget provided.
- (33) 231
To complete the project in accordance with established requirements safely, within budget, and on schedule and to establish future opportunities for additional work.

J. Charter mission drafts - Alumni Room

- 1. Draft #1-Prepared for viewing on overhead projector-Alumni room.
 - a) To provide a quality product in a timely manner, within budget guidelines and to achieve profitability for all participants.
- 2. Draft #2-1st editing attempt on overhead projector-Alumni room.
 - a) The Alumni team will provide a quality product in a timely manner, within budget guidelines and achieve profitability for all participants.

K. Charter mission drafts - Lakeshore Room

- 1. Draft #1 -1:35pm. prepared for viewing on overhead projector.-Lakeshore room.
 - a) We as a team are committed to completing the NSDES project, meeting or exceeding the owner's expectations. We will strive to maintain good working relationships, the highest standards of workmanship, and ensuring success for all participants.
- 2. Draft #2-1:45pm. 1st editing attempt, on overhead projector-Lakeshore room.
 - a) We as the Lakeshore team are committed to completing the NSDES project and will maintain good working relationships, the specified standards of workmanship, and strive for success for all participants.
- 3. Draft #3-2:05pm.
 - a) We as a team are committed to completing the NSDES project striving to maintain good working relationships, the highest standards of workmanship, and ensuring

success for all participants.

L. Recommendations

1. Done items (considered) - combined Lakeshore room and Alumni room - * indicates somebody must be appointed to do.

- a) Recognize and take into consideration the site problems that may be encountered by themselves and others.
- b) Read and understand the contract documents.
- c) *Prepare, publish, and use the organizational, authority, and communications channels for the project.
- d) Communicate in a clear fashion, being explicit about action items, due dates, and other relative stuff.
- e) Communicate all proposed changes to the project clearly and in a timely fashion to all concerned.
- f) *Prepare and publish project close out guidelines.
- g) Promote safety on the site.
- h) Be a good on-site and off-site neighbor.
- i) Abide by agreed upon plans and schedules of work.
- j) Resolve issues and disputes early and at the lowest possible level.
- k) Properly manage their work, and to respect the work of others.
- l) Maintain continuity of key personnel throughout the life of the project.
- m) Strive to understand and respect the views of others.
- n) Properly prepare and submit requests for payment in a timely fashion.
- o) Pay properly submitted pay requests promptly.
- p) Communicate the charter provisions and intent to all project personnel.
- q) *Prepare and publish guidelines for effective and timely decision making and issue resolution.
- r) Do it right the first time.
- s) Focus on solutions not problems.
- t) Live up to your commitments.
- u) Keep administrative and paper work to a minimum.
- v) Prepare and publish a partnering evaluation procedure.
- w) Keep an open mind to suggested improvements in the project design.
- x) *Provide donuts and coffee at meetings.
- y) Take ownership and participation in job.
- z) Be available.

Northern States Economic Data Systems Partnering Template for Charter Meeting
Charter for Northern States Economic Data Systems project

1. Mission.

Our mission as the Quality Team is to deliver the facility on time for the lowest possible cost within the specified requirements through the cooperative efforts of the Quality Team stakeholders for the benefit of all on the project.

2. Objectives - In recognition of the importance of achieving their mission all stakeholders agree to:

1. Maintain a clean and safe job site and be a good on-site and off-site neighbor.
2. *Prepare & publish, and act in accordance with a project directory outlining the chain of command, authority, responsibility and communication to be maintained on the project (NSEDs and GC)
3. Evaluate all requested substitutions as specified by the contract, and resolve the requests in a timely fashion.
4. Properly prepare and submit requests for payment in a timely fashion and make payments in accordance with the contract documents.
5. *Prepare & publish guidelines for effectively processing submittals, revisions, and requests for information (rfi's). (A/E and GC)
6. Fairly price and promptly process proposed changes to the project.
7. Conduct regular budget reviews of project costs to date and projected to the end of Phase 1 work, and take corrective or sustaining actions as required. (A/E, NSEDs, and GC)
8. *Prepare and publish a master plan and schedule of the work with the participation of all affected Quality Team members (GC)
 1. Manage and control the project from the master plan and update the plan and schedule as required, and take corrective or sustaining action as necessary to fulfill the project mission.
9. Disseminate Charter information and encourage the conditions of the Charter be applied to everyone working on the job.
 1. Prepare and publish partnering guidelines for orienting employees of the Quality Team members in briefing sessions.
10. Staff the project adequately to achieve the project mission and to encourage an ongoing attitude of maintaining the highest construction quality consistent with contract requirements
11. Identify, address and make project-related decisions in a timely and fair manner.

12. *Prepare and publish an issue resolution process that encourages project disputes to be resolved early and at the lowest or the originating level wherever possible. (Quality Team task force)
13. Read and understand the contract documents.
14. *Prepare, publish and implement a partnering evaluation procedure. (Quality Team task force)
15. *Prepare, publish and implement project close out guidelines. (GC and A/E)
16. *Prepare and publish a procedure for the development and overlay of various trade installations that are sources of potential interference with each other. (GC and A/E)
17. Strive to reduce unnecessary paper work, meetings and other administrative processes that do not add value to the project.
18. Encourage the continuing use of cost/benefit analysis throughout the project.
19. Strive to be accurate in all job related communications.
20. Treat others as you would like them to treat you.
21. Footnote -
 1. *Indicates an action that must be taken by the Quality Team stakeholders
 2. Party named in () is responsible for accomplishing the action item

1. Meeting data and notes

1. **Date of charter meeting - Thursday, November 2, 1995**
2. **Time of meeting - 8:25:46 AM to 05:01:32 P. M.**
3. **Location - Lakeshore Room - Wisconsin Center, University of Wisconsin, Madison, Wisconsin**
4. **Those attending charter meeting**
 1. **Leaders and Planning Committee**
 1. Phil Bennett, Univ. of Wisconsin-Madison, EPD
 2. Ralph J. Stephenson, Consulting Engineer, Ralph J. Stephenson, P.E.
 2. **Participants**
 1. **Table assignments**
 1. Table 1 - Owner/user ()
 1. Paul Gover - Field Representative for new building
 2. Robert Lewis - V. P. of operations
 3. Bill Christianson - Facility manager
 2. Table 2 - Mechanical & control contractor ()
 1. Joe Ennd - Field superintendent - Brown Mechanical

2. Linda McFadden - Estimator and project manager - Brown Mechanical
3. Don Murray - Project manager - Controls, Inc
- 4.
3. Table 3 - Design group and testing ()
 1. Michael Buettner - Field Inspector - L & M
 2. Thomas Hanley - Project Manager - L & M
 3. Ron Hastings - Project director and CEO - L & M
4. Table 4 - Computer systems & ffe contractors ()
 1. Randy Day - Project manager - Efficiency Design, Inc
 2. Greg Walker - Project manager for installation - Efficiency Design, Inc
 3. Julien Lavergne - Computer hardware project manager - Datacomp, Inc
5. Table 5 - General contractor ()
 1. Ron Drake - President - T & G
 2. Jeff Niesen - Project manager - T & G
 3. Bill Consalvi - Field superintendent - T & G
6. Table 6 - Electrical contractor ()
 1. Luis Carrillo - President - Powers Electrical
 2. Jim Vasatka - Project Manager - Powers Electrical
 3. David Simpson - Field superintendent - Powers Electrical
5. General meeting notes
 1. General comments on project
 1. Paul Gover
 1. Make certain all safety rules are obeyed
 2. Make certain that the general contractor conforms to client company rules for contractors working on site.
 2. Bob Lewis
 1. Absolutely no interruptions to existing operations
 1. Computer power
 2. Building power
 3. Employee access
 3. Ron Hastings
 1. They will try to maintain continuity through planned interruptions

2. Needs more info on proprietary systems for new building as well as the remodeled building
3. In design of the new building tried to reflect the attitudes and feelings of the people who had to use the facility
4. Tom Hanley
2. Material & equipment provided
 1. Partnering Charter Work Book - prepared by rjs
 1. Title sheet
 2. Agenda
 3. Partnering definition AGC
 4. Partnering definition CII
 5. Partnering definition - rjs
 6. Participant notebook outline
 7. Team groupings
 8. Mission, goals, objectives definition
 9. Route of dispute resolution
 10. Charter example
 11. Issue resolution
 12. Evaluation method
 13. Partnering evaluation example
 2. Flip chart and pens for each table - provided by WEX
 3. Transparencies for each table - provided by WEX
 4. Overhead projectors - provided by WEX
 5. Screen - provided by WEX
 6. Copying facilities - provided by WEX
 7. Note template - prepared by rjs
3. Actual start of meeting - 8:25:46 AM
4. Actual completion of meeting - 05:01:32 PM
6. Newspapers
 1. Newspaper #1 - Individual mission statements & suggested names for stakeholder group
 1. Early individual mission statements - prior to workshop #1
 1. 413 - To complete the project in a manner that exceeds the expectations of all parties involved.
 2. don - to provide the temperature controls for the proposed new building and existing building for the Northern States Company

- which will optimize safety and comfort for all occupants. All controls will be based on systems as defined per specification.
3. gmu - Dedicated to provide quality work, on time and within budget without recalls and uphold the company's tradition of excellence
 4. hmt - To carry out a design that thoroughly meets the program requirements of the owner, defines the scope of work for the contractors and adds architectural value to the community.
 5. iwe - We will provide the highest quality construction possible, within budget, and on time, with the least amount of conflict possible.
 6. jev - To aid in providing on time, electrical systems compatible with contractor supplied and owner supplied equipment, lighting, HVAC systems and general electrical distribution in support of the NSEDS project
 7. L38 - Deliver a quality product on time within the cost expectancy of the client.
 8. miz - The single most important achievement of my company, Brown Mechanical, is to provide a quality project to the owner in a timely manner while at the same time allowing Brown Mechanical to make a profit on the job and secure subcontractor position on the remodel work.
 9. msb - To design a building that's esthetically pleasing and functional to owner/user and deliver project with schedule and budget constraints and one that's profitable to our firm
 10. pwg - That everyone have a common understanding and goal so that project is completed on time, budget, everyone wins, and (the project) is fully functional while having fun.
 11. r2m - Thru mutual respect and trust among all participants achieve the timely and successful completion of the NSEDS project
 12. rch - Provide a facility to the owner that meets or exceeds, their needs in a way that is cost effective, profitable and is enjoyed by all involved.
 13. rsl - To achieve the successful completion of the construction project with the highest standard of workmanship and best adherence to schedule and cost containment possible.

14. sab - Our mission is to have everyone on this project become satisfied customers regarding quality, on time delivery, safety and profit, thus contributing to repeat work
15. sec - To provide a system that is installed on time and on budget while maintaining a working relationship which is based on trust and mutual respect.
16. upj - Maximize the sum of the current project profits with future potential profit with these customers
17. wgc - To provide safe esthetically pleasing functional facility that is economically energy efficient, environmentally compatible, and will be easily maintained and upgraded for future expansion
18. wjc - Minimum design changes from owner/arch. Meet schedule requirements. Good relationship between A/E and construction. A/E and construction shall work together to resolve problems & issues with the drawing and specs.
2. Later individual mission statements - after workshop #2
 1. 413 - To exceed all expectations while completing this project
 2. 6mu - I as a partner am committed to the successful completion of NSEDS new building
 3. don - To provide the satisfactory installation of all temperature controls for W. W. D. S.
 4. hmt - To provide design services based on the scope of services without negatively impacting others involved through our actions.
 5. jev - To provide quality and timely electrical systems compatible with the NSEDS project scope of work including proper and timely integration with other team members.
 6. jwe - Have all mech systems installed & of the highest quality to meet owner's need and requirements
 7. L38 - Deliver to the owner a successful project satisfying the requirements of time, quality, and cost.
 8. mis - The most important goal of this project is to make it successful.....to complete our contract in a quality, timely, and cost effective manner while benefitting all parties
 9. msb - To design a building that is successful aesthetically, functionally, and financially for all project participants
 10. pwg - Everyone expects and achieves a benefit by participating in this project

11. r2m - Thru mutual respect and cooperation satisfy the goals of ALL NSEDS project participants
12. rch - Provide timely, accurate, cost effective design services in a manner that meets or exceeds expectations.
13. sab - To become the premier general contractor of choice for all involved with this project
14. sec - To provide a system on time and on budget in accordance to the owner's requirements.
15. To facilitate construction to achieve the highest quality within the available time and costs.
16. upj - Produce a successful project for all parties while maximizing my present and future profits
17. wgc - To build a safe, aesthetically pleasing and functional building safely, on time, and on budget
18. wjc - Good communication and a functional working relationship among the G.C., the A/E, and the owner, and the subcontractor.
3. Suggested names for the partnering team
 1. Bucky Group
 2. Lakeshore Partnering Beginners
 3. Lakeside -With-A-View group
 4. Musketeers
 5. NSEDS CANDO team
 6. Results R Us
 7. Telitreck Partners
 8. The NSEDS - SENDS
 9. The Professionals
 10. United Telitreck Partners
2. Newspaper #2 - Team problem statements
 1. Workshop #2 - Problems we cause others
 1. Team #1 - the Honchos
 1. Timely resolutions
 2. Site access
 3. Slow payment
 4. Over inspection
 5. Changes
 1. Scope

2. Schedule
3. Personnel
6. Autocratic - right
7. Unreasonable expectations
8. Lack of ripple effect to others
9. Communications
10. Want the world until we know what it will cost
11. Slow decision making process
12. Lack of internal owner communications
2. Team #2
 1. Start up problems (various systems)
 2. Warranty interpretation (extent/time)
 3. Get temporary heat up for winter construction
 4. Possible disruptions to existing business when heavy equipment is brought on site
 5. Communications or schedule problems ?? mechanical and controls
 6. Non-timeliness of submittals
 7. Timely follow up on punchlist
 8. Interference with other trades
 9. Falling behind schedule
 10. Non compliance with an established C. O. procedures
3. Team #3
 1. Poorly managed, incomplete, ambiguous construction documents
 2. Design over budget
 3. Design late
 4. Inadequate code review
 5. Lack of representation at meetings and documentation
 6. Non-timely review of submittals
 7. Poor design, i.e. does not meet program requirements
 8. Poor management of design consultants
 9. Unreasonable schedule for contractor
 10. Low ball design fee - cannot complete work effectively
 11. Unrealistic expectations of a/e staff, i.e. overtime
 12. Lack of expertise
 13. Too eager to please

14. Too much ego
15. Stale or no doughnuts
16. Lack of continuity of personnel
4. Team #4
 1. Late delivery of materials and equipment and shop drawings and samples
 2. Need vast completed building areas prior to installation
 3. Damage to finishes during installation
 4. Our requirements for clean and secure areas for storage & installed equipment
 5. Debuggin and completing punch list
 6. Misinterpretation of stds.
 7. Failing to meet the schedule
 8. Fair change order pricing
5. Team #5
 1. Schedule changes
 2. Change notifications (prompt)
 3. Unrealistic expectations
 1. of subcontractors
 2. of designers
 4. Dictatorial in lies of team orientation
 5. Poor review of submittals
 6. Communication of changes
 1. Dist. bulletins
 2. Dist. schedule update
 3. Conduct progress meetings
 4. Dist. meeting notes
 5. Problem notice
6. Team #6 - Power Rangers
 1. ?
 2. Equipment size & changes
 3. Conduit and cable routing
 4. Lack of commnication
 5. Safety violations
 6. Delay of work by non adherence to schedule
 7. Site housekeeping
 8. Power outages for tie in work

9. Delay in certification of code adherence
10. Late order of major or critical equipment
11. Not communicating need for special equipment (scaffolds, hoists, cranes, etc.)
12. Providing temp power, lighting, and heat
13. Circuit identification
14. Damage to other's work
15. Slow deficiency resolution
2. Workshop #1 - Problems others cause us
 1. Team #1 - Owner and user - The Honchos
 1. Not conforming to safety codes
 2. Not adhering to communication chain of command
 3. Materials used are not what we had in mind
 4. Lack of cost control
 5. Lack of schedule control
 6. Lack of quality workmanship
 7. Lack of important problem notification & resolution decisions
 8. Lack of organization and regard for ongoing production
 9. Lack of site cleanliness and restriction of normal activities
 10. Lack of pre-planning & scheduling to prevent disputes.
 2. Team #2 - Mechanical and control contractor
 1. Clarification of scope (AE) - overlap between division 15 & 16
 2. Timely schedule from GC
 3. Timely turnaround on submittals and rfi's (a/e & gc)
 4. Keep to payment schedule (gc)
 5. Coordinate heavy equipment delivery with wall installation (gc)
 6. Equipment foundations and structural penetrations need to be coordinated (gc)
 7. Punch list and testing and balancing timing to be coordinated
 8. Define substantial completion and start of warranty period (a/e owner)
 9. Establish a change order procedure
 10. Provide architectural interference drawings
 3. Team #3 - Design group and testing
 1. Changes in scope
 2. Changes in program requirements

3. Contractors not familiar with contract documents
4. Owners not fully reviewing documents prior to construction or bidding phases
5. No clear U.D.M.
6. Lack of response from consultants (timely)
7. Un-clear lines of communication
8. Contractors by-passing a/e and taking direction from others, i.e. owners
9. Expectations for additional services for no cost or without schedule change
10. Incomplete, ambiguous, or late shop drawings
11. Lack of documentation of meetings, conf. calls, etc.
12. Alternate materials, methods being used without prior approval by a/e
13. Timely awareness, being told by contractor of problems
14. Existing and/or new info from owner and /or contractor not accurate
15. Unrealistic regulator representatives
16. Poor documentation on change orders or payment request
17. Unclear understanding of documentation expected by the owner or contractor
18. Unclear program from owner
19. Owner's budget & program expectations do not match
- 20.
4. Team #4 - Computer systems and ffe contractors
 1. Unknown chain of communications
 2. Owner changing the scope of work
 3. Delays by others
 4. Poor management of schedule
 5. Lack of scheduling work with other trades
 6. Painting and sanding while doing computer installations
 7. Timely answers to questions
 8. Slow pay
 9. Not having one source of authority for inspections, changes
 10. Too much phasing of work
 11. Lack of staging/ storage area
 12. Damage to my work by others

13. Closing in (walls & ceilings too soon
14. Unending punch list
15. Prescriptive stds that are open to interpretation
16. Restricted (hindered) access to the job site
5. Team #5 - General contractor - The General
 1. Changes in scope
 2. Slow decision making
 3. Design changes
 4. Meeting delivery schedules
 5. Site access
 6. Lack of information
 1. Subs
 2. Documents
 7. Lack of knowledge
 1. Design documents
 2. Schedule
 3. What's already build
 4. What's connected to
 8. Manpower on the job
 1. Qualified people
 9. Existing conditions are different than construction documents or historical records
 10. New safety regulations/incomplete information
 11. No clear chain of command
 12. Clear definition of GC contingency
 13. Clear understanding of payment procedures & terms
 14. Poorly coordinated documents
 15. Unavailability of owner/ae representative
 16. Lack of communication on all levels
 17. Schedule commitments from other prime contractors
6. Team #6 - Electrical contractor - Power Rangers
 1. Lack of coordination
 2. Schedule adherence - advance notice
 3. Undeclared work scope - no definition of electrical termination points
 4. Owner changes
 5. Interference resolution (early)

6. Info required for permits
 7. Approval delays
 8. In place work damage
 9. Elect materials storage area
 10. Site security
 11. Equipment/material delays
 12. Scaffold/hoist access
 13. Late payment from G. C.
 14. % complete conflict (equip on site not yet installed)
 15. Labor disruptions
 16. Defective contract documents
 17. Equipment submittals for long lead time equipment -
"approved equal"
 18. Deficient line of command
 19. Safety and housekeeping
 20. Non-participation in site meetings
3. Newspaper #3 - Project mission statements and recommendations
 1. Project mission statement
 1. Those on the project mission task force
 1. Ron Drake - President T & G
 2. Jim Vasatka - Project manager - Powers Electric
 3. Robert Lewis - V.P. of operations - Owner
 4. Randy Day - Project manager - Efficiency Design
 2. Draft #1 of project mission - prepared by task force
Our mission is to deliver a quality facility within budget, scope and time frame by cooperatively integrating all partner's responsibilities for the benefit of all!
 3. Draft #2 of project mission - as modified by stakeholders
(partnerers, WEX team, or other name for the group)
Our mission is to deliver a facility for the lowest possible price within specified requirements and on time by cooperatively integrating all partners responsibilities for the benefit of all.
 2. Workshop #4 - Recommendations
 1. Team #1 - Owner
 1. Establish lines of decision making, authority and accessibility to save time
 2. Improve communication conduit & structure it around chain of command authority.
 3. Make payments on time

4. Invest time up front to dedicate resources towards scheduling and planning
5. Involving the responsible project management team in the design phase - to get their input
6. Investigate the total impact of changes on the project before issuing a change order
7. Have increased understanding towards peers and other team members
8. Work hard to minimize disruptions during personnel changes
2. Team #2 - Resolutions
 1. Will provide advance notice of possible problems
 2. Define warranty by special meeting with owner and G. C.
 3. Concentrate on effective planning
 4. Adjust schedule as required for temporary heat / cooling
 5. Avoid or give advance notice of disruptions
 6. Form "internal" partnering
 7. Formulate submittal list that defines priorities
 8. Commit to timely follow up to punch list
 9. Interference drawings
 10. Maintain schedule
 11. Comply
3. Team #3
 1. Put in place a Q.A. and checking procedure
 2. Involve contractors and suppliers as soon as possible to minimize redesign
 3. Early communication with bldg/permit official
 4. Agree to review time required and meet completion commitment
 5. Taking time to ensure v/s and agreement
4. Team #4
 1. Late delivery
 1. Order and prepare in a timely manner
 2. Building areas required for work
 1. Build into schedule
 3. Damages to finishes
 1. Caution workers & pay for damages

4. Debugging and punch list
 1. Provide quality workmanship from the start
 2. Do punch list in a timely manner
5. Misinterpretation of standards
 1. Clarify with A/ E at earliest time
 2. Provide samples and mockups
6. Failing to meet schedule
 1. Maintain schedule - overtime, extra manpower, start on time
7. Fair changer order processing
 1. Provide or submit fair prices at beginning
5. Team #5
 1. Schedule regular meetings with
 1. Owners and A/ E
 2. Subcontractors
 2. Publish meeting notes
 3. Develop schedule with all parties
 1. Publish regularly
 2. Update regularly
 3. Include submittal dates
 4. Document completion dates
6. Team #6
 1. Notify ASAP of changes or size conflicts
 2. Identify areas of concern re interferences
 3. Keep everyone informed
 4. Adhere to a "safety plan"
 5. Update our schedule weekly
 6. Clean up as we go
 7. Adequate notice in writing

c) Table assignments	1
(1) Table 1 - Owner/user ()	1
(a) Paul Gover - Field Representative for new building, 1	
(b) Robert Lewis - V. P. of operations, 1	
(c) Bill Christianson - Facility manager, 1	
(2) Table 2 - Mechanical & control contractor ()	1
(a) Joe Ennd - Field superintendent - Brown Mechanical, 1	
(b) Linda McFadden - Estimator and project manager - Brown Mechanical, 1	
(c) Don Murray - Project manager - Controls, Inc., 1	
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(a) Luis Carrillo - President - Powers Electrical, 1	
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(c) David Simpson - Field superintendent - Powers Electrical, 1	

1. Newspaper #1 - Mission statements & suggested names for stakeholder group
 1. Early individual mission statements - prior to workshop #1
 1. 413 - To complete the project in a manner that exceeds the expectations of all parties involved.
 2. don - to provide the temperature controls for the proposed new building and existing building for the Northern States Company which will optimize safety and comfort for all occupants. All controls will be based on systems as defined per specification.
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18. wjc - Minimum design changes from owner/arch. Meet schedule requirements. Good relationship between A/E and construction. A/E and construction shall work together to resolve problems & issues with the drawing and specs.
2. Later individual mission statements - after workshop #2
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 5. Lack of schedule control
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 8. Lack of organization and regard for ongoing production
 9. Lack of site cleanliness and restriction of normal activities
 10. Lack of pre-planning & scheduling to prevent disputes.
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 1. Clarification of scope (AE) - overlap between division 15 & 16
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 3. Timely turnaround on submittals and rfi's (a/e & gc)
 4. Keep to payment schedule (gc)
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 6. Equipment foundations and structural penetrations need to be coordinated (gc)
 7. Punch list and testing and balancing timing to be coordinated
 8. Define substantial completion and start of warrenty period (a/e owner)

9. Establish a change order procedure
10. Provide architectural interference drawings
3. Team #3 - Design group and testing
 1. Changes in scope
 2. Changes in program requirements
 3. Contractors not familiar with contract documents
 4. Owners not fully reviewing documents prior to construction or bidding phases
 5. No clear U.D.M.
 6. Lack of response from consultants (timely)
 7. Un-clear lines of communication
 8. Contractors by-passing a/e and taking direction from others, i.e. owners
 9. Expectations for additional services for no cost or without schedule change
 10. Incomplete, ambiguous, or late shop drawings
 11. Lack of documentation of meetings, conf. calls, etc.
 12. Alternate materials, methods being used without prior approval by a/e
 13. Timely awareness, being told by contractor of problems
 14. Existing and/or new info from owner and /or contractor not accurate
 15. Unrealistic regulator representatives
 16. Poor documentation on change orders or payment request
 17. Unclear understanding of documentation expected by the owner or contractor
 18. Unclear program from owner
 19. Owner's budget & program expectations do not match
 - 20.
4. Team #4 - Computer systems and ffe contractors
 1. Unknown chain of communications
 2. Owner changing the scope of work
 3. Delays by others
 4. Poor management of schedule
 5. Lack of scheduling work with other trades
 6. Painting and sanding while doing computer installations
 7. Timely answers to questions
 8. Slow pay
 9. Not having one source of authority for inspections, changes
 10. Too much phasing of work

11. Lack of staging/storage area
12. Damage to my work by others
13. Closing in (walls & ceilings too soon)
14. Unending punch list
15. Prescriptive stds that are open to interpretation
16. Restricted (hindered) access to the job site
5. Team #5 - General contractor - The General
 1. Changes in scope
 2. Slow decision making
 3. Design changes
 4. Meeting delivery schedules
 5. Site access
 6. Lack of information
 1. Subs
 2. Documents
 7. Lack of knowledge
 1. Design documents
 2. Schedule
 3. What's already build
 4. What's connected to
 8. Manpower on the job
 1. Qualified people
 9. Existing conditions are different than construction documents or historical records
 10. New safety regulations/incomplete information
 11. No clear chain of command
 12. Clear definition of GC contingency
 13. Clear understanding of payment procedures & terms
 14. Poorly coordinated documents
 15. Unavailability of owner/ae representative
 16. Lack of communication on all levels
 17. Schedule commitments from other prime contractors
6. Team #6 - Electrical contractor - Power Rangers
 1. Lack of coordination
 2. Schedule adherence - advance notice
 3. Unclear work scope -no definition of electrical termination points
 4. Owner changes

5. Interference resolution (early)
6. Info required for permits
7. Approval delays
8. In place work damage
9. Elect materials storage area
10. Site security
11. Equipment/material delays
12. Scaffold/hoist access
13. Late payment from G. C.
14. % complete conflict (equip on site not yet installed)
15. Labor disruptions
16. Defective contract documents
17. Equipment submittals for long lead time equipment - "approved equal"
18. Deficient line of command
19. Safety and housekeeping
20. Non-participation in site meetings

Question C - What data is needed to monitor project charter project performance.

Mrs. Roethler says answering this question is the major job to be done in this first meeting of the Olanta stakeholders.

As mentioned earlier, on the Olanta project the main ingredients to be measured are the relative importance or weight of the charter objectives and the current degree of performance success being realized in achieving each objective. The task force has twenty-three objectives to which measurements must be applied. As the meeting starts it is obvious that there are differences of opinion among the stakeholders on the task force. Their first heated discussion centers on whether or not to set criteria for measuring the importance of the charter objectives.

If the charter were perfectly written, some members argue, each objective would have the same importance. This perfect charter could have all items assuming the same importance, perhaps a one, or a five. Or, the items could all be said to be of average importance and have a weight of three across the board. If all objectives have exactly the same importance, then no weight ratings need be assigned.

Some professional practitioners feel that the items in the charter should fit this constant-weight model. If they don't, these individuals feel the item shouldn't be included in the document. Others feel that it is difficult or impossible to write a perfectly balanced charter and that some provisions will always be more important than others. This difference, proponents of the weighted-objective rating feel, can be reflected best in a variable weighting method.

Finally, however, the task force members do agree that weights should be assigned to each objective on a scale of one to five. A weight of one means the objective is of

little importance and five means the objective is of great importance. The Olanta evaluation task force stakeholders decide to weight the twenty-three charter objectives individually. Weights are to be assigned in accordance with the following standards:

Weight = 05

Charter objective is of extremely high importance to achieving the mission of the project. If the objective is achieved its potential contribution to success of affected project work is very significant.

Weight = 04

Charter objective is of above-average importance to achieving the mission of the project. If the objective is achieved its potential contribution to success of affected project work is somewhat over-average but not at the top level of contribution.

Weight = 03

Charter objective is of average importance to achieving the mission of the project. If the objective is achieved its potential contribution to success of affected project work is at the average for successful similar projects.

Weight = 02

Charter objective is just below average importance to achieving the mission of the project. If the objective is achieved its potential contribution to success of affected project work is below average but is still of some value to the project.

Weight = 01

Charter objective is of little or no importance to achieving the mission of the project. If the objective is achieved its potential value-added to the affected project work is minimal and has little impact on overall project success.

Next, Mrs. Roethler leads the task force in setting a method of measuring how well the stakeholders and the project team actually do their work in relation to each charter objective over the evaluation period. Many names can be assigned to this rating. Some called it a value: others call it a performance level, or performance quality. The selection of one name over another is made easy by their similarity of meaning. The Olanta team decides to call the gauge of performance during the evaluation period the performance quality rating, or PQ. They define performance quality as a measure of how well the project is running.

Note that both the weight (W) and the performance quality (PQ) are considered ratings—not rankings. Each objective of the charter is rated separately and any weight or performance quality can be the same for multiple objectives.

Mrs. Roethler suggests that the evaluation task force also use a scale of one to five by which to measure performance quality. The task force agrees and further suggests measuring PQ levels at least once per month. They agree to set the detailed procedures and methods of measuring later in the meeting. The task force first addresses how to define performance on the scale of one to five. What does five mean and what does one mean?

After considerable discussion and some constructive dissension, task force members

all agree to the following:

Performance quality = 5 - the best possible performance.

The potential for successfully achieving the objective is very high due to the excellent performance of the project team and stakeholders over the evaluation period. Their excellence-in-action has either maintained a previous very high level of value-added or has considerably raised a previous lower level of contribution.

Performance quality = 4 - a good performance, with the potential for doing better.

The potential for successfully achieving the objective is higher than average due to the good performance of the project team and the stakeholders over the evaluation period. Their work has either maintained a previous moderate level of contribution, or has raised a previous lower level of contribution. There remains room for some performance improvement.

Performance quality = 3 - an average performance.

The potential for successfully achieving the objective is average and comes from a moderately competent performance of the project team and the stakeholders over the evaluation period. Their work has not significantly raised lower performance in previous evaluations, nor has it seriously damaged previous moderately higher levels of contribution. There remains room for considerable performance improvement.

Performance quality = 2 - performance slightly below average and slightly above

being unacceptable.

The potential for successfully achieving the objective by this level of performance being continued is below average and comes from a marginal operation of the project team and the stakeholders over the evaluation period. Their work has not significantly raised lower performance levels in previous evaluations and may seriously damage previous higher levels of contribution. There is an important need for sizable performance improvement.

Performance quality = 1 - the worst possible performance.

Little, if any, potential exists for successfully achieving the objective by this level of performance. It results from a poor performance of the project team and the stakeholders over the evaluation period. Their work has significantly damaged the likelihood of success and negated previous higher levels of contribution. There is an urgent need for immediate corrective attention and action.

Values assigned can be in intermediate decimals if the stakeholder rating the teams execution of the activity feels the need for this degree of refinement. For instance, if the performance is higher than average but still lacks the feel of a truly good job, a stakeholder scoring the performance might give a rating of 3.5. The interpretation must be that of the stakeholder since it is the way he or she perceives the work value.

"Perception is reality"

from large numbers of experienced people.

Charter for Northern States Economic Data Systems project

1. Mission.

Our mission as the Quality Team is to deliver the facility on time for the lowest possible cost within the specified requirements through the cooperative efforts of the Quality Team stakeholders for the benefit of all on the project.

2. Objectives - In recognition of the importance of achieving their mission all stakeholders agree to:

1. Maintain a clean and safe job site and be a good on-site and off-site neighbor.
2. *Prepare & publish, and act in accordance with a project directory outlining the chain of command, authority, responsibility and communication to be maintained on the project (NSEDs and GC)
3. Evaluate all requested substitutions as specified by the contract, and resolve the requests in a timely fashion.
4. Properly prepare and submit requests for payment in a timely fashion and make payments in accordance with the contract documents.
5. *Prepare & publish guidelines for effectively processing submittals, revisions, and requests for information (rfi's). (A/E and GC)
6. Fairly price and promptly process proposed changes to the project.
7. Conduct regular budget reviews of project costs to date and projected to the end of Phase 1 work, and take corrective or sustaining actions as required. (A/E, NSEDs, and GC)
8. *Prepare and publish a master plan and schedule of the work with the participation of all affected Quality Team members (GC)
 1. Manage and control the project from the master plan and update the plan and schedule as required, and take corrective or sustaining action as necessary to fulfill the project mission.
9. Disseminate Charter information and encourage the conditions of the Charter be applied to everyone working on the job.
 1. Prepare and publish partnering guidelines for orienting employees of the Quality Team members in briefing sessions.
10. Staff the project adequately to achieve the project mission and to encourage an ongoing attitude of maintaining the highest construction quality consistent with contract requirements
11. Identify, address and make project-related decisions in a timely and fair manner.
12. *Prepare and publish an issue resolution process that encourages project disputes to be resolved early and at the lowest or the originating level wherever possible. (Quality Team task force)

Andy Day

Thomas M. Henry

Mike McFall

13. Read and understand the contract documents.
14. *Prepare, publish and implement a partnering evaluation procedure. (Quality Team task force)
15. *Prepare, publish and implement project close out guidelines. (GC and A/E)
16. *Prepare and publish a procedure for the development and overlay of various trade installations that are sources of potential interference with each other.(GC and A/E)
17. Strive to reduce unnecessary paper work, meetings and other administrative processes that do not add value to the project.
18. Encourage the continuing use of cost /benefit analysis throughout the project.
19. Strive to be accurate in all job related communications.
20. Treat others as you would like them to treat you.
21. Footnote -
 1. *Indicates an action that must be taken by the Quality Team stakeholders
 2. Party named in () is responsible for accomplishing the action item

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