

CICE
THE NEXT FIVE YEARS
AND BEYOND

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The Business Roundtable . . . an association of about 200 chief executive officers of American companies in all fields who examine public issues that affect the economy and develop positions that seek to reflect sound economic and social principles.

CICE . . . a cooperative long-term campaign of the construction industry, open to all owners, contractors, architects and engineers, labor organizations, regulators, construction professionals, academics and others interested in any aspect of construction. **Its objective: To improve the cost effectiveness of the American construction industry.** It began as the Construction Industry Cost Effectiveness project of the Construction Committee of The Business Roundtable. It is made up of Task Forces and Committees responsible for continuing to develop and implement recommendations to enhance construction cost effectiveness.

LUCs . . . Local Construction User Councils, located throughout the United States and made up of representatives of companies that use construction services. The Councils work at the local level to improve construction cost effectiveness, through implementation of CICE recommendations and by other means.

CII . . . the Construction Industry Institute, an organization of owners and contractors working with the academic community to conduct research relating to the construction industry and to aid in the implementation of the results of that research.

Contractor Organizations . . . a network of independent organizations of contractors in construction-related fields. Some are national in scope, some regional or local; some are made up of general contractors; others of specialty contractors; some comprise firms that use union labor; others, open-shop contractors. They provide services to, and represent the interests of, their members.

SUMMARY

In the 1960s, '70s and into the '80s construction in America suffered a steady decline in efficiency, productivity and quality. Business—and the nation—paid a high price. Capital was used inefficiently. Profitability declined. So did U.S. ability to compete in world markets.

Five years ago CICE, a project of The Business Roundtable, launched its Findings and Recommendations to help business and industry get more construction for the money.

Experience since then has confirmed the initial projection that the Recommendations, if implemented, can save at least \$10 billion a year for the industry overall, reducing project costs by 10% and, in some cases, by as much as 30%.

Owners and contractors who have adopted CICE Recommendations, even in part, have achieved savings far in excess of their cost. Safety performance and quality have improved.. Schedules have been met. CICE has worked for small organizations and small jobs, just as it has for the nation's largest owners and contractors.

There is now ample proof that cost effectiveness can be improved and money saved through management commitment to CICE. Attitudes in the industry are changing. Owners are getting more construction for the money. Contractors are finding more, and more profitable, work. Things are better for craftsmen. CICE is paying off.

For the next five years-and beyond The Business Roundtable remains committed to CICE. Its implementation campaign will continue. The Construction Industry Institute will carry out an ambitious research program. Local User Councils will continue to aggressively pursue cost effectiveness. Industry organizations and professional groups will continue to adapt CICE and CII concepts to the interests and needs of their memberships.

The result will be still more construction for the money as existing programs are expanded and refined and as CICE spreads to owners and contractors who have yet to put its Principles and Recommendations into practice. This Report offers proposals for further progress.

CICE . . . What and Where It Is

CICE—the Construction Industry Cost Effectiveness project—was launched by The Business Roundtable in 1978 in response to deteriorating productivity in the industry.

Productivity in construction had grown moderately in the post-war era until the mid-'60s. Then it started to decline. The drop became significant in the '70s and had gotten to the crisis stage late in that decade. Construction was, in fact, the only industry sector in which productivity dropped every year from 1965 forward.

The implications for the U.S. economy were widespread and serious. The productivity of construction influences the productivity of capital. High construction costs reduce profitability and force prices up. Higher prices make it difficult to compete in a growing global marketplace. As construction cost effectiveness declined, American industry became less and less able to compete with foreign producers, both at home and abroad.

The trend and its effects were obvious. The causes were not as well understood, nor were the remedies. But it was clear to all, and especially to owners of large projects, that prompt, purposeful, planned action was needed.

The Business Roundtable acted decisively, committing manpower and resources to the creation and implementation of CICE. The concept was straightforward: have experts study, identify and evaluate the causes and then develop practicable, realistic remedies. The industry was broken into manageable study units. Highly qualified teams went to work. Each developed two sets of results: Findings as to what was wrong and Recommendations as to what should be done and who should do it. It took four years and countless professional judgments and inputs from the 250 team members to complete the task. By 1983 results had been published in the form of 23 booklets containing the Findings and 223 Recommendations.

The Project

The Findings are detailed and specific—and, in many cases, critical. The teams found that the shortcomings of construction cannot be laid at the feet of any one group—not labor, not management, not contractors, not engineers, not government—but are the shared responsibility of all.

If the Findings were the bad news, the good news is inherent in the Recommendations. Things can be changed; there are solutions and remedies; we can still be the masters of our business destinies.

The Recommendations, presented in five general categories, offer a sound basis for company and industry strategies and action plans. And, even on a conservative basis, they promise substantial results:

- overall savings of at least \$10 billion a year,
- savings of 10%—up to 30% in some cases—of total project cost, and
- a cost/benefit ratio of 1/10.

Implementation

An extensive communication and information program has been mounted since the Reports first appeared. More than 1.5 million copies have been distributed. Contractor organizations aggressively promote the CICE concept. So do LUCs. Speakers appear before construction groups from coast to coast. Two films and eight audiovisual presentations are being widely shown. Chief executive officers hear the CICE story from their fellow chairmen. In short, the word is out—but not nearly far enough, especially among smaller organizations and smaller projects. A continuing effort is in the works.

Of major importance for the long run has been the creation and continuing growth of the Construction Industry Institute. This business/academic consortium, which arose out of CICE, is effectively advancing the original CICE work and adding a new dimension through its extensive research projects. Through CII the flow of new information and recommendations to the industry will continue and grow.

Another strong positive influence is exerted by the Local User Councils. Now numbering about 40, they are located throughout the country. Their aggressive programs, tailored to regional conditions and managed by people on the scene, are efficient carriers of the CICE message.

And, on another front, organized labor and a group of contractors have formed a National Market Recovery Program "to create a more efficient and productive union construction industry for owners while creating more jobs for union members and union construction employers."

Results of all this are promising. "Implementation of the 223 Recommendations is being carried out by over 20% of the industry. . .over half (of these) have already observed significant cost-saving results."* Many major companies have proven to themselves the benefits of CEO involvement in the project process. Many owners have learned that they

* CII Pub. 1-1 "CICE Impact on the Construction Industry" December 1996

have the economic power to stay fully in charge and to demand and get high levels of performance on their jobs. Many contractors have learned that cost effectiveness can mean more, and more profitable, work for them.

The concepts of project integration, constructability and teamwork are yielding positive results for all concerned. New emphasis on the training, upgrading and motivation of craftsmen is bringing these key players more fully into the game. And it has become clearer to many that cost effectiveness does not mean that there will be less money for those in construction but that there will be "more construction for the money."

Results

There has been a turnaround in the industry, but the challenges multiply. The next five years—and beyond—will bring more foreign competitors with new technologies and new ways of doing things to U.S. projects. Demographic labor-supply shortages and resurgence of counterproductive legislation can reduce efficiency and cost effectiveness.

The decentralization of engineering and construction in many companies will make better communication essential. Fewer professional personnel, the downsizing of technical staffs and the trend to smaller projects will require both owners and contractors to be more flexible and more versatile.

Overall productivity and effectiveness will become increasingly dependent upon dedicated application of the "team" concept. Development and implementation of new technology will be urgent for the industry. And the new emphasis on quality, a significant and welcome development in the industry, makes the problem-solving potential of the CICE Recommendations more critical and more timely than ever.

These prospects all combine to send a message that's loud and clear: implementation of CICE for another five years—and beyond—is imperative.

CICE . . . Recommendations and Principles

A five-year review of the CICE Findings and Recommendations confirms their validity and usefulness. Although a comprehensive restudy might suggest some changes in emphasis and details, it would not result in extensive revision.

An early CICE publication, for example, listed a dozen overall Findings, including items such as:

- modern management systems can bring financial returns 20 times their cost . . .
- more than half the time wasted . . . is due to poor management . . .
- forced scheduled overtime is counterproductive, wasteful . . .
- spending time and money to train . . . can bring very significant financial returns . . .
- contracts and the way they're written have an enormous impact on costs . . . and should have more owner attention . . .
- to help overcome problems involving organized labor, owners should support contractors....

All are still true and relevant. And the same holds for most of the 223 Recommendations that constitute the core of CICE's action proposals. The Recommendations are grouped in five general categories....

- A. Project Management
- B. Construction Technology
- C. Labor Effectiveness
- D. Labor Supply and Training
- E. Regulations and Codes

....and are included in a series of 23 Reports, which are listed on the last page of this booklet along with an address for ordering free copies.

Mechanisms for implementing the Recommendations are in place throughout the industry. They range all the way from one-time attacks on a single problem to ongoing, across-the-board programs that have become an established way of doing business throughout a company. Rigorous case histories, time after time, document significant cost-savings, quality improvement and on-schedule performance that can be attributed to CICE.

The review of implementation experience has not only turned up successes but has also produced several general observations that suggest what needs to be done if CICE's benefits are to be consolidated and extended. For example,

- more than a third of the industry, including most major owners and contractors, know about CICE and have given serious thought to the Recommendations, but many have not yet acted;
- the more companies and individuals know about CICE Findings and Recommendations, the more likely they are to implement them;
- smaller companies, owners and contractors alike, are less aware of CICE than larger ones;
- successful implementation programs almost always have (1) top management support and (2) adequate resources;
- specific Recommendations that are readily implemented and offer immediate benefits usually get priority over those that involve long-term attention and deferred results;
- working with unions to apply labor-related Recommendations offers real opportunities for cost-effective change;
- the applicability of CICE to small projects and to maintenance and service functions at operating plants has not been fully recognized;
- greater involvement of the architect/engineer profession in the CICE campaign is essential to optimum results.

As these observations suggest, the initial CICE implementation experience provides realistic guidance for current and future programs. It also strengthens the conviction that planned and aggressive pursuit of the CICE Recommendations—and those of CII—will improve cost effectiveness.

However, CICE is much more than its Recommendations. It is a group of concepts whose whole is greater than the sum of its parts. CICE calls for the purposeful and intelligent application of conventional wisdom, for using good new ideas whatever their source and for developing and applying basic new ways of thinking about construction. In this context, experience with CICE has led to the evolution of this set of ideas that go beyond specific Recommendations for specific situations and are, in fact, general guides for owners and contractors:

CICE PRINCIPLES

1. The cost effectiveness of the construction process can be controlled and major savings achieved if top management gives it the same attention and direction applied to production, marketing and other mainstream functions.

CICE programs are most successful when senior management recognizes the effect of construction costs on profitability and competitiveness and assigns priorities and resources accordingly.

*2. The **owner** puts the money in. He has the economic incentive and the means to fix the goals, set the standards and control the process.*

Owner-driven projects—those in which the owner establishes his expectations, exercises his authority firmly and knowledgeably, and accepts responsibility for legitimate costs—are most likely to be cost-effective. They also are usually best for contractors and craftsmen as well.

3. It takes major changes across the board to improve cost effectiveness. The CICE Recommendations and most other formulas for improvement in construction all require change—change in the way construction is planned, managed, accounted for, thought about, regulated and done . . . in tools, techniques and technology . . . in the way workers are trained, supervised, motivated and compensated . . . in what owners permit, require and accept responsibility for.

4. Modern management systems are as important in construction as in other business functions.

The industry's failure to use available modern systems for planning and scheduling, control accounting, estimating, budgeting, quality assurance, materials management and similar functions has been a primary factor in escalating construction costs. CICE and CII efforts to "sell" modern management systems are beginning to result in widespread acceptance and implementation.

5. New technology will reduce costs, improve quality and expedite the construction process.

Three elements crucial to the development and application of new technology have been missing: definition of needs, communication of needs to the R&D community and communication of results to potential users. The establishment of CII, discussed earlier,

addresses this situation. So will a threefold expansion since 1982 in faculty and graduate-student participation in construction research.

6. Construction cost effectiveness depends on people—their training, upgrading, supervision, motivation, involvement, commitment . . . the proper use of their skills . . . and the practices and conditions that control their performance on the job.

Good personnel management enables people to make their maximum contribution, develops their potential and ensures that skilled craftsmen are used only in those tasks where their skills are required. Although construction workers are usually contractor employees, it is in the owners' interest to require that they be managed and used effectively and to accept the associated costs.

7. Projects are most successful when all elements—planning, design, field construction, start-up, operation and maintenance—are integrated from initial concept to completion.

Constructability, as this integration is usually referred to, was often ignored in the past with field construction being treated as a production function unrelated to the other elements. Implementation of CICE Recommendations and CII Studies is changing that practice with positive results.

8. Contracts should be written to fit the specific job, fairly and adequately recognizing the legitimate interests of all parties.

Various types of contractual arrangements are possible; no one is best under all circumstances for all projects. Neither is any one contractor the best choice for all types of work.

9. "Team-building" is a practical and productive way to maximize the contribution of the diverse interests, skills, resources and people involved in any project.

Mutual cooperation is mutually beneficial. Adversarial relationships are not.

10. Local conditions affect a project's cost effectiveness and owners have a legitimate interest in them.

LUCs have proven to be a positive and productive means for understanding and influencing local conditions. Another section in this Report explains their programs.

11. An effective safety program benefits employees; enhances motivation, morale and communications; and has a positive cost benefit ratio.

Owners and contractors have both become more active in safety matters over the past five years and safety has a much higher priority.

12. Getting more construction for the money requires the creation and execution of a structured and practical action plan. CICE Recommendations, CII Studies and other sources provide a sound basis for developing one.

CICE . . . and the LUCs

The Local User Council network is proving a valuable ally in CICE implementation. LUCs were working on construction industry problems before there was a CICE, and there are now about 40 of them, operating from coast to coast.

Each is an autonomous organization made up of representatives of owners who are direct construction users. In some LUCs contractors participate as associate members. Current LUC membership exceeds 800 and is growing about 10% a year. Each LUC develops its own program and chooses the problems it wants to tackle.

Regardless of its methods and priorities, each LUC shares a common objective: to enable construction users to work together at the local level to promote construction cost effectiveness through CICE implementation and other available means. LUC programs are developed to meet local needs and opportunities. Some Councils work on many problems; others focus on a few specific issues. Leadership is local and so are decisions, but the LUCs are vital to the CICE cause and provide timely and continuing linkage with CII.

Among principal LUC programs are those aimed at

- providing a forum for informed discussion of local construction matters against a background of national developments,
- providing a vehicle for direct involvement in local construction matters, including issues involving job-site labor,
- informing members about CICE and CII studies, providing case history data as incentives and examples for local application, and
- increasing local construction skills and professionalism through training courses, workshops and seminars.

Typical of current LUC programs are one Council's 20 professional and managerial seminars a year and another's series of meetings bringing several hundred participants together to discuss ways to improve regional contractor practices. One sponsors a cooperative venture with local contractors to keep owners briefed on contracts and project agreement possibilities, and another runs a school for construction apprentices.

LUCs are made up of management personnel familiar with construction who make construction-related decisions for their companies. Operating funds usually come from membership dues many LUCs have paid staff in addition to a committee structure manned by members.

Although LUCs are made up of local members and run by them, The Business Roundtable and CII provide important support services, including detailed information on how to establish and operate a LUC and such resources as reports, audiovisual presentations, a speakers' bureau, semiannual national conferences for LUC members and executives and special assistance as needed.

Affiliation with a LUC, where possible, is a key step in implementing CICE. LUCs welcome new members and their active involvement. Information about LUCs and the name and address of the one serving a specific area can be obtained by writing The Business Roundtable.

CICE . . . and CII

CII was formed in 1983 in response to a CICE call for creation of a national center to provide continuing and coordinated research in construction and to disseminate information about innovation in the industry. It has quickly become an influential and effective force for change with 15 Task Forces at work and numerous publications issued and in process.

CII is not an arm of The Business Roundtable but a freestanding consortium of almost 70 members, divided about equally between owners and contractors. It works with the academic community "to improve the cost effectiveness of the construction industry, thereby strengthening the competitive position of American manufacturing industry in the international marketplace." Its mission extends broadly across the entire range of the construction process and its "products" are available to all in the industry.

CII is organized to take advantage of the strengths of both the business and academic worlds. It is part of the Bureau of Engineering Research at the University of Texas at Austin, and its director is a tenured professor of civil engineering there. He and a small staff run the day-to-day business of the Institute and arrange the research contracts with the 30 or so universities affiliated with CII. A Board of Advisers, representing each member company, sets the Institute's general direction. A Policy Committee oversees the studies and their implementation. The Task Forces that carry out the studies are made up of especially qualified people from member companies and academia.

Task Forces are currently working on CICE Impact Evaluation, Productivity Measurements, Model Plant, Constructability, Data, Contracts, Cost/Schedule Controls, Materials Management, Design, Technology, Quality Management, Employee Effectiveness, Project Organization, Safety, and Education and Training. Other subjects will be assigned to Task Forces as the CII program develops.

Publications of the Task Forces are listed in the Appendix of this Report. Typically, they are based on research reports and contain extensive discussions of the subject together with detailed recommendations. Emphasis is on practical information, and "how to save money" is the underlying message of each of them. A report on Evaluation of Design Effectiveness, for example, provides a method for measuring design productivity on a

project, yielding data useful in managing future design activities. The Report on Project Controls details the methods and importance of cost, schedule and materials control and describes how they can be managed effectively. Other report, as their titles imply, concentrate on many familiar problems and opportunities within the industry.

CII will continue to broaden its research and the dissemination of its results to the industry. Information about CII and its publications can be obtained by writing to the address shown in the Appendix.

CICE . . . The Next Five Years

CICE is a long-term project that will continue for the next five years—and beyond. Its study and initial implementation phases are complete. Now, with ongoing strong support from The Business Roundtable, it will broaden its implementation activities, reaching deeper and more broadly into the construction industry and enlisting the active involvement of more companies, more professionals and more organizations.

Present plans include:

- A continuing vigorous information campaign stressing CICE and CII Principles and Recommendations and their benefits to *all* segments of the industry regardless of function or size. This will include appropriate written materials, audiovisual presentations, a speakers' bureau, conference and seminar involvement, collection and dissemination of CICE case histories, and development of fresh material for use in trade and professional journals.
- Close cooperation with CII, Local User Councils, owner and contractor organizations, professional societies and academic groups to provide assistance, encouragement and resources as appropriate.
- Efforts to promote CICE awareness and response among commercial owners and developers; expanded contacts with government agencies that act as either owners or regulators.
- Work through national societies and associations to stimulate support of CICE by architects and designers.
- Active promotion of improved construction industry safety and a program for recognizing excellent performance.
- A broadened program of CICE Outstanding Contribution Awards to recognize individual owners, contractor associations, contractors and government agencies.
- Continuing review and updating of principles and recommendations.

The Industry . . . The Next Five Years

The past five years have proved that it is possible for owners to get more construction for the money; for contractors to get more, and more profitable, work; for craftsmen to have more rewarding and steadier jobs.

The next five years—and beyond—will be an opportunity for consolidation and expansion of these gains and for extending them to segments of the industry that have not yet responded.

Cost effectiveness has been enhanced when owners have exercised leadership, when there has been owner/contractor cooperation, and when the best available ideas, information, attitudes, systems, procedures and technology are put to use. Similar results can be achieved regularly in the future by both owners and contractors within the framework of CICE and CII or through any similarly productive approach to industry problems.

The CICE Reports and CII Studies propose specific ways for making the industry more cost-effective. Their titles and sources are listed in the Appendix and on the inside back cover of this booklet. For those who are new to CICE, a first step is a review of the Reports and an analysis of their applicability. Both newcomers to CICE and those already familiar with it may find CICE, Clip and LUC activities useful in developing, promoting and implementing their own cost effectiveness programs.

The Recommendations are valuable how-to prescriptions, but the CICE principles can be equally useful in the formulation of a general approach to improving cost effectiveness. An implementation strategy should be adapted to a company's own situation, but a successful one might include elements like these, which are applicable to both owner and contractor organizations:

1. Senior management support of the CICE program and commitment to provide direction and resources.
2. Acceptance of owner responsibility to require improvements in cost effectiveness and to pay the associated up-front costs.
3. An intent to change and to innovate.
4. Treatment of a project as an integrated whole from initial planning to completion.

5. Commitment to a team approach in which expectations and rewards for all participants are fairly set and executed.
6. Recognition that the safety, training, motivation and proper use of people are the concern of owners and contractors alike.
7. Application of CICE Principles and Recommendations to maintenance as well as to construction.
8. Search for and use of the best available information and ideas for improving cost effectiveness

Whatever strategy may ultimately be developed, CICE implementation requires changes in many of the ways of doing business for any organization, whether an owner, contractor, architect/engineer firm or governmental body. Changes come hard, and they must be woven into the business process. A new "corporate culture" directed towards getting more construction for the money must be created. New methods must be carefully selected and deliberately adopted. Then they must be institutionalized as integral parts of ongoing systems and procedures, a transition that will occur not through chance but through effective management.

CICE is neither a fad nor a superficial "sales tool" for influencing clients or shareholders. It is a reasoned, dedicated and long-term campaign in the self-interest of all concerned with construction. It promotes innovation, risk-management, technology and the effective use of all resources, including people.

It requires change, commitment and resources. If these are brought to bear, it will benefit everyone in the industry. And it will help restore the profitability and competitiveness of U.S. business and industry in the world market over the next five years—and beyond.

APPENDIX

CII Publications

Following is a list of CII Publications available in mid-1988. All are available at \$2.50 a copy (except 3-3*, which is \$25 and includes Publications 3-1 and 3-2). Copies may be ordered from *Construction Industry Institute, 3208 Red River Street, Suite 300, Austin, Texas 78705-2650*. Payment should not be included with the order; an invoice will be sent. Source documents that support the Publications as reference material are also available. A listing of their titles and costs can be obtained from CII.

<i>Pub. No.</i>	<i>Title</i>
1-1	CICE Impact on the Construction Industry
2-1	CII Model Plant
2-2	Manual of Construction Productivity Measurement and Performance Evaluation
3-1	Constructability: A Primer
3-2	Guidelines for Implementing a Constructability Program
3-3	Constructability Concepts File*
5-1	Impact of Various Construction Contract Types and Clauses
6-1	Project Control for Engineering
6-2	Scope Definition and Control
6-3	Model Planning/Controlling System for EPC Industrial Projects
6-4	Contractor Planning for Fixed-Price Construction
6-5	Project Control for Construction
7-1	Cost and Benefits of Materials Management Systems
7-2	Project Materials Management Primer
8-1	Evaluation of Design Effectiveness
8-2	Input Variables Impacting Design Effectiveness
10-1	Measuring the Cost of Quality in Design and Construction
10-2	Cost of Quality Deviations in Design and Construction

CICE REPORTS

The Findings and Recommendations of The Business Roundtable's Construction Industry Cost Effectiveness project are included in the Reports listed below. Copies may be obtained at no cost by writing to The Business Roundtable.

Project Management—Study Area A

- A-1 Measuring Productivity in Construction
- A-2 Construction Labor Motivation
- A-3 improving Construction Safety Performance
- A-4 First and Second Level Supervisory Training
- A-5 Management Education and Academic Relations
- A-6 Modern Management Systems
- A-7 Contractual Arrangements

Construction Technology—Study Area B

- B-1 Integrating Construction Resources and Technology into Engineering
- B-2 Technological Progress in the Construction Industry
- B-3 Construction Technology Needs and Priorities

Labor Effectiveness—Study Area C

- C-1 Exclusive Jurisdiction in Construction
- C-2 Scheduled Overtime Effect on Construction Projects
- C-3 Contractor Supervision in Unionized Construction
- C-4 Constraints Imposed by Collective Bargaining Agreements
- C-5 Local Labor Practices
- C-6 Absenteeism and Turnover
- C-7 The Impact of Local Union Politics

Labor Supply and Training—Study Area D

- D-1 Subjourneymen in Union Construction
- D-2 Government Limitations on Training Innovations
- D-3 Construction Training Through Vocational Education
- D-4 Training Problems in Open Shop Construction
- D5 Labor Supply Information

Regulations and Codes—Study Area E

- E-1 Administration and Enforcement of Building Codes and Regulations

Summary—More Construction Or The Money

Films and audiovisual presentations are also available. Or information write The Business Roundtable, ATTN: AUDIOVISUALS.

CICE PRINCIPLES

1. The cost effectiveness of the construction process can be controlled and major savings achieved if top management gives it the same attention and direction applied to production, marketing and other mainstream functions.
2. The **owner** puts the money in. He has the economic incentive and the means to fix the goals, set the standards and control the process.
3. It takes major changes across the board to improve cost effectiveness.
4. Modern management systems are as important in construction as in other business functions.
5. New technology will reduce costs, improve quality and expedite the construction process.
6. Construction cost effectiveness depends on people—their training, upgrading, supervision, motivation, involvement, commitment . . . the proper use of their skills . . . and the practices and conditions that control their performance on the job.
7. Projects are most successful when all elements—planning, design, field construction, start-up, operation and maintenance are integrated from initial concept to completion.
8. Contracts should be written to fit the specific job, fairly and adequately recognizing the legitimate interests of all parties.
9. "Team-building" is a practical and productive way to maximize the contribution of the diverse interests, skills, resources and people involved in any project.
10. Local conditions affect a project's cost effectiveness and owners have a legitimate interest in them.
11. An effective safety program benefits employees; enhances motivation, morale and communications; and has a positive cost/benefit ratio.
12. Getting more construction for the money requires the creation and execution of a structured and practical action plan. CICE Recommendations, CII Studies and other sources provide a sound basis for developing one.