WHAT IS VALUE ENGINEERING OR ANALYSIS?

As a picture is painted by using many different shades of color -- As the meaning of a word is determined by its usage in educated circles -- let us provide partial quotations of several responsible individuals in a Senate Committee Hearing in August 1967.

Vernon G. McKenzie, Deputy Director, Bureau of Disease Prevention and Environmental Control, Department of Health, Education and Welfare:

> "--- we are talking, not about an entirely new area of engineering, but rather about an extension and improvement of practices that have long been in use."

Frank Turner, Director, Bureau of Public Roads, Department of Transportation:

> "---Value Engineering probes into the functional requirement to determine if an alternate configuration can accomplish the required function at less cost."

Louis C. Kingscott Jr., Pres. Louis C. Kingscott & Associates Inc:

> "Value engineering is an organized, creative approach to obtain optimum value for every construction dollar spent. Value engineering generates an atmosphere where creative thinking is fostered, and changes are more readily accepted.
>
> In value engineering an effort is made to bring out a person's latent creative ability and to get him to challenge a design in a creative atmosphere. Most architects and engineers have this creative talent and only need the opportunity to bring it forth. Value engineering, I believe, provides this opportunity."

R. Glenn Woodward, Senior Staff Engineer in charge of Value Engineering for Operations Research Inc.

> "The development of value engineering now provides the ability to teach a systematic approach, so that what were randon results before can now be planned accomplishments measured against desired and practical objectives.
>
> Value engineering is defined as an organized approach that clearly and simply defines the need for, and the requirements of, equipment, structures, and services; establishes minimum cost targets for these needs and requirements; and provides a systematic and rational procedure for the application of the creativity and initiative necessary to reach these cost and performance targets.

Value engineering uses a very basic, simple, and direct approach that is focused on answering six questions:

(a) What is currently being done or specified?
(b) What does, or will, it cost?
(c) What is the basic need or requirement to be met?
(d) What is the minimum possible cost?
(e) What are the potential alternative approaches?
(f) What will each alternative cost?"

Douglas Earich, Vice President, Management Technology, Inc.

"Value engineering, or its synonymous term—value analysis—is a relatively new management technique—having been on the business scene as an organized effort or tool since about 1949. However, its basic underlying concept—the commonsense approach to identifying unnecessary costs—and then the decisionmaking required to eliminate such cost—is really achieved through the new or rearrangement of familiar things plus the addition of a few new items."

Brigadier General H. G. Woodbury, Jr., Director Civil Works, Corps of Engineers, Department of the Army.

"Value engineering as we see it is a discipline that conscientiously seeks an open-eyed, open-mined, resourceful and imaginative analysis of a design for a system or an item with special emphasis on the function served, the worth of this function and alternative ways of serving the function more economically.

You have also heard how the application of value engineering has achieved almost spectacular successes in many fields in developing equivalent or better ways of doing things at lower costs. It is our purpose in this presentation to discuss what the Army Engineers have done in applying value engineering to their programs, the results achieved to date and probable future trends in corps application."

From Department of the Army, Office of the Chief of Engineers booklet.

"Contrary to a popular belief, Value Engineering is not a dressed-up version of a suggestion program, nor is it a process by which we accept the first logical solution to a high cost problem that comes to mind. It is not, by any means, a cheapening process.

Value Engineering is an organized effort directed at analyzing the function of construction, systems, equipment and supplies for the purpose of achieving the <u>required</u> functio at the lowest <u>overall</u> cost consistent with the requirements for performance, reliability, and maintainability.

Note the use of the word, "effort". VE is not a matter of suddenly coming upon a means of reducing the cost of an item. We deliberately set about the business of (1) defining a high cost area; (2) determining the basic function of the item; (3) "brainstorming" the problem to create a list of perhaps 15 to 25 alternative ways of performing the function; (4) selecting the best alternative that will perform the function at least cost; and (5) selling the proposal."