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11/14/84

HELPING OUR NATION GET MORE QUALITY PLANNING & CONSTRUCTION  
FOR THE MONEY

Outline of a talk to the Society of Military Engineers,  
Detroit Post - November 14, 1984 - Mariner's Hotel, Detroit,  
Mich

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1. Possible topics for talk
  - a. Leadership - 10
  - b. Management - 9
  - c. Engineering education - 9
  - d. Quality planning - 9
  - e. Productivity - 7
  - f. Automation in the construction profession - 7
  - g. Design & construction practices - 6
  - h. Automation in the design profession - 5
  - i. Energy conservation - 4
  
2. As we look at the list of topics defined as important and as of interest to the Military Engineers I find that one of my favorites ranks high by my rating system (will wonders never cease?). The subject is LEADERSHIP!
  
3. Leadership is so closely related to the military engineer, to the work of the engineer, to the work of the Corps of Engineers and to the construction forces of this country that they are interactive and virtually inseparable.
  
4. The greatest single deficiency in the design and construction industry today is not a lack of design skill; it isn't lack of opportunity, nor is it deficiencies in our American technical education system and content. It is very simply, in the methods by which we synthesize these into something real; something tangible; a force for actual good.
  
- Walter Lippman said in 1945 that the final test of a leader is that he leaves behind him in other men the conviction and the will to carry on....The genius of the good leader is to leave behind him a situation which common sense, without the grace of genius, can deal with successfully.
  
5. This unifying force seems to have largely disappeared from many organizations today. It must be reestablished if we are to solve the problems of high productivity, quality performance, good management, energy conservation, automation and excellent education.

6. Many of the present barriers to achieving solutions to the above points have their roots in the lack of leadership skill needed to put resources to work.

7. Some selected sayings about leadership indicate the depth of thought generated by the subject:

a. Leadership is the ability to get people to do what you want because they want to do it. - President Eisenhower

b. To be a leader one must turn one's back on men - Havelock Ellis

c. I have three treasures. Guard and keep them:  
The first is deep love,  
The second is frugality,  
The third is not to dare to be ahead of the world.

Because of deep love, one is courageous.  
Because of frugality, one is generous.  
Because of not daring to be ahead of the world, one becomes the leader of the world. - Lao-tzu 604 to 531 BC

d. They be blind leaders of the blind. And if the blind lead the blind, both shall fall into the ditch. - Matthew 15:14 ca 70 AD

e. In the business world everyone is paid in two coins: cash and experience. Take the experience first; the cash will come later. - Harold Geneen in Managing 1984

f. The unfailing formula for production of morale is patriotism, self-respect, discipline, and self-confidence within a military unit, joined with fair treatment and merited appreciation from without....It will quickly wither and die if soldiers come to believe themselves the victims of indifference or injustice on the part of their government, or of ignorance, personal ambition, or ineptitude on the part of their military leaders. - General Douglas MacArthur 1933

g. Leadership and learning are indispensable to each other - President John Kennedy 1963

h. When Pack meets with Pack in the Jungle and neither will go from the trail, Lie down till the leaders have spoken-it may be fair words shall prevail. - Rudyard Kipling 1895 The Second Jungle Book - The Law of the Jungle

i. It is time for a new generation of leadership, to cope with new problems and new opportunities. For there is a new world to be won. - President John Kennedy 1963

8. The above comments on leadership span a time of more than 2500 years and indicate the continuing preoccupation with the need for good leadership.

9. What do we mean by good leadership in the contemporary design and build environment?

10. Several suggestions come to mind stemming from the weaknesses I have observed over the past 41 years, the approximate period of time I consider I have had to exert a leadership role of some type or another.

11. First the weaknesses:

- a. Diffusion of authority
- b. Diffusion of responsibility
- c. Lack of desire to be accountable (often because the individual can no longer afford financially to be accountable)
- d. Inability to understand the broad scope of work effort needed in total
- e. Lack of incentive to be good
- f. Conflicts in the measurement systems used to evaluate good & bad
- g. Selfishness & greed
- h. Perceived unfairnesses in the economic and political systems by which we are governed
- i. Contrived adversary positions generated by those gaining most from them
- j. Increasing dilution of the importance of good technical performance
- k. Confusion about what is truly important in design and construction
- l. Adversarial work relations
- m. Debilitating struggles for project control
- n. Misplaced effort in relation to true control points, i.e. the owner believing that greater productivity can be achieved through the sole effort of a construction company management; or, management believing that labor unions are the only cause of low productivity
- o. Lack of desire and ability to plot a future course of action and make it work. You plan the work and then you work the plan.
- p. Refusal to improve communications methods and systems
- \* q. Excessive emphasis on cost control and reduction in the construction process as opposed to valid cost structuring in the program and design periods
- r. Poor definition, translation and transmission of the scope of work needed and desired
- s. Poor selection methods in awarding the contracts for design and for construction
- t. Lack of leadership training in the vocational and higher institutions of learning

- u. Deliberate restrictions on leading imposed by some employers, organizations and agencies
- v. The transition to a litigious society
- w. The large numbers of people involved in the processes of getting anything done. The paradox is that the desired check and balance systems become less and less effective, the greater the number of people involved in a given situation
- x. Large numbers of blank or obscured activity areas due to the tendency to assume that someone else has done what you are supposed to do; or that you must do something only to find out that several others are also engaged in the same action
- y. The use of fuzzy words like coordinator, assistant, facilitator, administrator which dilute the true meaning of the title and cloud responsibility and authority patterns
- z. Failure to understand what improvement is, or how to bring it about.

12. Now for some specific instances of a few of the above

a. Some selected contract document clauses. How do you react to these?

1. A field order reads, "The work is to be done at no cost" - architect & engineer's interpretation of a change to the work
2. "Field work on angle and wear bars does not interfere with installation required"
3. "The issuance of this field order shall not in any way obligate the Owner to pay for work required to be performed by the existing plans and specifications, and the issuance of the field order does not amount to any acknowledgement or concession that the work described is not required of the contractor by the existing plans and specifications" - a field order for \$18,000 on a \$25,000,000 job.

b. The indecision on running the curbs through and leaving utility poles in place as compared to stopping work and revising the design to accommodate a late proposed change.

c. The defensive position of an electrical engineer when informed that he would have to early locate the in floor and wall electrical conduit to allow an early issue of the concrete frame drawings.

d. The statement of a separate prime contractor that all he is obligated to do is to finish his work by the end contract date irrespective (implied) of the hardship it imposes on the other prime contractors in meeting their contract requirements.

e. The action of a large utility company that dismisses

a contractor from a job when he is 75% done because he is behind schedule when the utility company breached the contract immediately upon starting the job by not having his work done so the contract work could start

f. The action of a mechanical contractor in padding bulletin estimates to the point where each one requires a major reestimating by the architect/engineer and the owner

g. Efforts by parties to a contract to subvert the efforts of others involved because of traditionally perceived differences of opinion.

Some traditional rivalries include those between architects and engineers; between designers and contractors; between owners and users; between specialty contractors and general contractors; between construction managers and general contractors; between design build firms and architects in private practice; between superintendents and project managers; between the design department and the production departments in and architectural office.

h. The growing tensions between the legal profession and the construction industry in which the attorneys see little wrong with continued legal attacks on design and construction projects so long as there appears to be a contested claim. Often no opportunity to negotiate an administrative settlement is afforded because of the intrusion of the attorneys. The legal mind does not lead in getting the job done, they lead toward contesting the methods by which the process operates.

13. And now some suggestions as to how to provide and make effective the leadership needed to correct the more serious of our deficiencies.

14. The path toward effective leadership starts with prescriptive (giving directions or injunctions as opposed to telling us how to) statements about the action.

- a. Be firm but fair
- b. Take advantage of the experience and abilities of other people
- c. Don't show off authority
- d. Admit your mistakes
- e. Be consistent
- f. Don't be afraid to train someone to take your job
- g. Be a self starter
- h. Keep people informed
- i. Keep reading and learning

15. The how to statements include:

a. Continue your education. As President Kennedy once said, "leadership and learning are indispensable to each other".

Good education and training leads to gaining respect and confidence - two essential ingredients of effective leadership

b. Strive to use everything said in a situation to some beneficial end. Turn words of bitterness into a sensible, answerable complaint that can be disposed of by intelligence, experience and patience.

c. Make certain that to the greatest degree possible everyone in a given situation is a winner of something of value. There should be no losers, only those who win more than others.

d. Don't worry about who gets the credit. If you give away every good idea you have for the rest of your life you will gain more fame and wealth than you ever dreamed possible.

e. Teach anyone who will listen everything you know: you will find this impossible because of the return in knowledge on your investment.

f. Try to understand and appreciate the different ways business is done in the construction profession. For example there are nearly 700 different ways to retain the services of a contracting company, not just one or two. Understand the value and deficiencies of all and you will then gain leadership position by your broad understanding of a multitude of views.

g. Develop confidence in others - the good manager and the leader reaches his goals and objectives through the work of other people in whom he has confidence.

h. Start with the assumption that people on the project all want to do a good job.

i. Seek to take responsible positions commensurate with your abilities.

j. Look for the good in all situations. Good is often hidden, but is usually there somewhere in some amount.

k. Know the principals of being creative. Be creative and then give the raw product of your creativity to someone else to use with no conditions attached.

Alternate discussion

Let's look at a few ideas about creativity

Creative thinking is an essential ingredient to providing leadership and motivation.

Creative thinking is applied to the management process on a routine basis by continuing to learn with an open mind; being among the first to accept something new while being among the last to discard the old.

Major obstacles to thinking creatively are making premature judgements, and excessive use of the self fulfilling prophecy. The self fulfilling prophecy usually indicates you have your mind made up before ever starting any heavy thinking about the idea. You then never give your brain a chance to do any creative thinking.

It is nearly impossible to be creative and judgemental at the same time. When creatively considering a complex matter prepare a random laundry list of things that have to be done or thought about. The list should include all items within reason whether you and the others involved think it should be included. Often the combination of a single idea of doubtful merit is a brilliant thought in league with other ideas.

The creative procedure can be described by seven steps

1. Gather all facts that time will allow about the subject under consideration. Don't be judgemental while collecting information.
2. Think hard about the information you have gathered in relation to the situation you are involved with.
3. Forget all about the problem and the data gathered!
4. Ideas (illumination!) will usually start springing to mind soon after the forgetting (gestation) period starts. Be alert for a sudden revelation of the solution.
5. Act on the solution!
6. Follow up and check to see if the idea worked.

Creativity is a simple, elegant way of life and leadership. All you must do to enjoy it is to unlock your thinking, exercise your mind and use your imagination!

l. Help your people eradicate self doubt.

m. Create concepts of common goals.

n. Strive to unify your people by giving them a focus of effort to overcome the external problems. Unification against external problem usually goes a long way toward resolving internal problems.

o. Synergy is one tool of the leader. He takes the parts and makes their total worth greater than the sum of the separate unit efforts.

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