

LOSS CONTROL IN CONSTRUCTION SEMINAR***THE LIMITS OF PLANNING***

Presented by

Ron G. Prichard, P.E., Ph.D.
Senior Consultant
Aon Risk Consulting

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Dr. Prichard is one of the presenters for Monday's "Loss Control in Construction" seminar. He has over 30 years of involvement with the construction industry at various levels, beginning as a laborer for a homebuilder. He has successfully managed construction in both the public sector (while serving as an officer on active duty with the U.S. Army Corps of Engineers) and in the private sector (as a construction project manager with a general contractor operating in New Jersey and Delaware, and as a construction administrator with PSI Energy, an Indiana Electric utility).

In addition to his construction management experience, Dr. Prichard has extensive field experience in construction safety. He managed the Construction and Engineering Services Group of CIGNA Property & Casualty Companies, was responsible for safety on a large owner construction program, and presently serves as a consultant with an insurance broker.

Dr. Prichard currently represents The Associated General Contractors (AGC) of America and The Construction User's Roundtable (CURT) on the ANSI A10 Construction & Demolitions Safety Committee, with which he has been active since 1990. He also is active on two key standards workgroups: A10.38, Key Elements of A Safety & Health Program, and A10.33, Construction Safety Programs for Multi-Employer Worksites. Additionally, Dr. Prichard serves as chair of the Construction Industry Safety Excellence Award program for CURT.

Dr. Prichard received a bachelor of science degree from West Point, a master of science degree in civil engineering, and a Doctorate of Philosophy in engineering, and he is a Professional Engineer (Civil). Dr. Prichard is a professional member of the Project Management Institute, the American Society of Civil Engineers, the American Society of Safety Engineers, and the Society of American Military Engineers. He is a retired Major, Corps of Engineers, U.S. Army Reserve.

THE LIMITS OF PLANNING

Ron G. Prichard
Aon Risk Consulting

Outline

- The Importance of Planning
- The Planning Process
- Critical Limitations
- When Things Go Wrong
- A Balanced Model

If you fail to plan,
you plan to fail

The Importance of Planning

- Planning is prosaic, a ubiquitous aspect of Life
 - We are constantly either planning ourselves, or are part of someone else's plan
- Any adult who doesn't is considered unstable
- Plans are nothing, planning is everything.
 - Dwight D. Eisenhower
- Planning and uncertainty are inversely related
 - More planning means more information has been collected and more deliberate, rationally-based decisions have been made
- Planning helps to define the possible range of things which might happen

Definitions

- **Plan:** a detailed formulation of a program of action; an orderly arrangement of parts of an overall design or objective; a method for achieving an end
- **Planning:** an often customary method (procedure) of doing something; the act or process of making plans

Plans

- Are projections into the future, including predictions as to what outcomes will be
- Are a “blueprint” for action, setting forth tasks and sequences
- Are a form of language –
 - to communicate information
 - to define a problem so that it may be solved
 - to permit coordination and mustering of resources
- Are a means of providing objective evidence of efforts to solve problems, and to persuade others

The Function of plans, a basis for:

- Facilitating dialogue and communication
- Mustering resources
- Organizing preparations
- Focusing efforts
- Orchestrating actions and activities
- Forum for regular reviews and course corrections
- Opportunity for anticipating problems

Basic Steps of Planning

- Step 1: assess fairly completely what the problem is
- Step 2: determine the objective, as it relates to that problem
- Step 3: write a plan that addresses reaching the objective and solves the problem
- Step 4: Implement

The Theory of Good Planning

- Responses are connected to plans
- It permits actions to be organized, and for tight **coordination** among participants
 - Enhanced through preparation
- It provides for clear **communication** among people who need information
- It is the mechanism for **cooperation** to make the response more productive

Key Elements of Planning

- Goals
- Assumptions
- Tasks
- Level and scale
- Sequencing and scheduling
- Time Span
- Time Horizon
- Decision Authority

Other Elements of Planning

- Methodologies
 - Rules for making choices
- Structure
 - Rules for assembly of information
- Boundaries
 - Rules for where to stop

The Most Important Aspect

- To be effective in planning, you must know what is **important**, in very precise terms
- Planning involves imaginary activities – events and things that are to occur in the future- so it is necessary to make assumptions and also, it is very easy to ignore things

Critical Limitations

- No plan survives contact with the enemy.
 - Helmuth von Moltke
 - Due to independent will of the opponent and the two most difficult elements of uncertainty [the enemy of all plans]
 - Time
 - Chance
- There is nothing about the presence of a plan that guarantees success, nor is failure certain due to the absence of planning
- Surprises can – and will- occur [Murphy's Law]
- Most plan assume that things will go right – as they are planned

The Social Cost

- To make a plan is to claim expertise
 - This makes planning inherently political
 - Every claim of expertise is a claim that some other party should be left out of the decision loop, as not being important or vital
- Plans close off discussions
 - Stifling objections and other ideas
 - Reducing scrutiny

The Natural Dilemma

- Planning takes time
- The more detail you get into, or the more information you attempt to gather, the better your ability to predict and decide
- The more time you take in gathering information the longer planning takes
- You cannot predict all disturbances

You May Delay, but Time Will Not

Benjamin Franklin

- The passage of time invokes entropy – Nature’s Despised Houseguest – who comes in and never leaves
- Entropy can only be countered by energy, input, and order, which requires more time to be spent
- Thus Time introduces and induces effects which have to be countered

Other Issues of Balance

- Stability versus Uncertainty
- Complexity versus Simplicity
- Analysis versus Synthesis
- Practicality versus Creativity
- Level of detail
- Control versus flexibility

Information Reliability

- All planning is predicated upon information
 - The better the information, the better the plan
- Thus, the reliability [how trustworthy is the quality of the information] is a vital aspect
- Classification is based upon source evaluation
 - Good: certain that it is usable
 - Bad: certain that it is unusable
 - Suspect: not certain either way
 - IDK: I don't know

Other Points of Breakdown

- Estimation errors
- Insular planning groups
- Inherent goal conflict or multiple goals
- Inadequate breakdown of tasks
- Losing sight of the real purpose
- Failure to consider frictions and obstacles

The Primacy of Purpose

If the aim is wrong, nothing else in
the plan will be right

When Things Go Wrong

- Race to the South Pole, Nov 1911 - Feb 1912
- The Battle of the Somme, Nov 1916
- The D-Day Landings, Normandy 6 June 1944

A More Balanced Model

- Emphasis on Synthesis – forward looking, not analysis
- Goal as the predominate element
- Application of Ashby's Laws
 - 1st Law of Systems
 - Requisite variety
- Adventure vs Expeditions

Good Plans

- Addresses hard facts
- Defines, clearly, uncertainties and assumptions
- Set concrete goals, defining intent, with a timeline
- Identifies responsibilities and authority
- Assigns tasks, with milestones, deadlines, expectations and standards of performance

Good Planners

- Are accountable - not insulated from results
- Compare actual to planned results and make modifications as necessary
- Remember the limitations and the lessons they teach, seeking to preserve dynamic balance between the competing demands
- Don't get caught up in protocol adherence, losing sight of the objective of the plan – they know that the main thing is to keep the main thing the main thing, regardless