ENR
EVENTS & CONFERENCES

Risk & Compliance Summit

Essential Strategies for Loss Prevention

1 SEPTEMBER 20, 2013

NEW YORK, NY

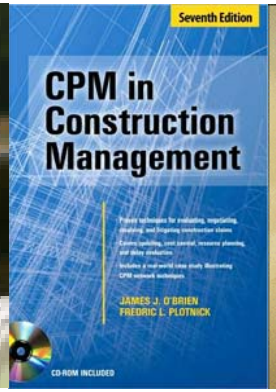
$ EARLY BIRD: $325

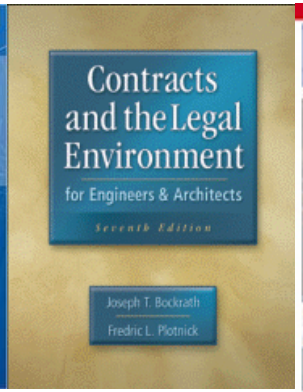
Working in Unexplored Territory

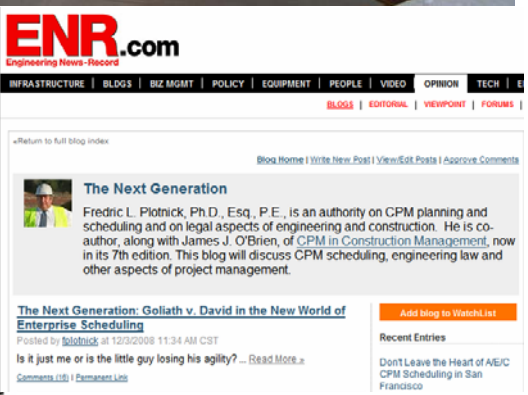
Technology, Project Delivery & Sustainable Design: Liability and Emerging Standards of Practice

Introducing
Fredric L. Plotnick, PhD., Esq., P.E.

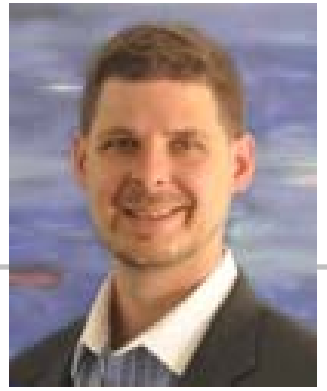
- **Moderator**
- **Co-Author *CPM in Construction Management***
- **Co-Author *Contracts and the Legal Environment for Engineers & Architects***
- **Author ENR.com Blog *The Next Generation***
- **Founder *Construction CPM Conference***





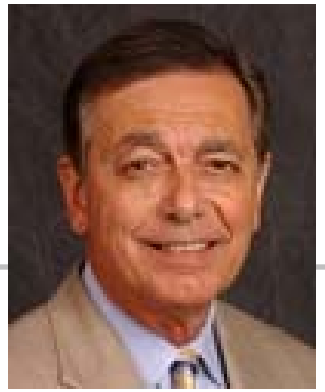


Introducing
Jason Burns



- **Representing the At Risk Constructor**
- **Hunter Roberts Construction Group, *Vice President, Technology***
- core network infrastructure
- project site infrastructure
- software and security management
- senior financial analyst

Introducing
Ron Dellaria, RA, CSI



- **Representing the Design Professional**
- **Astorino, *Chief Compliance Officer***
- responsible for all legal aspects of the A/E and Construction businesses, and
- implementation and supervision of the Building Information Modeling process

ASTORINO

Architecture Engineering Interior Design Design/Build

Integrated Project Delivery: Design/Build, BIM, Design Research

Introducing
Glen R. Mangold, CPCU

- **Representing the Insurance Industry**
- **Markel Corporation, *Managing Director, Architects-Engineers Program***
- overseeing Architects & Engineers professional liability underwriting
- published regarding risk management for design firms in numerous publications

Risk Issue #1

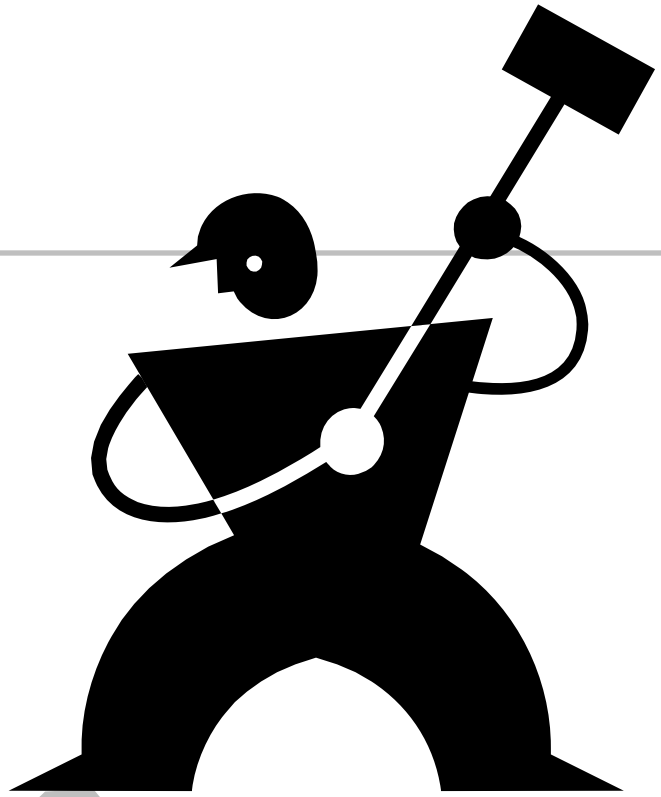
Data Gone Wild

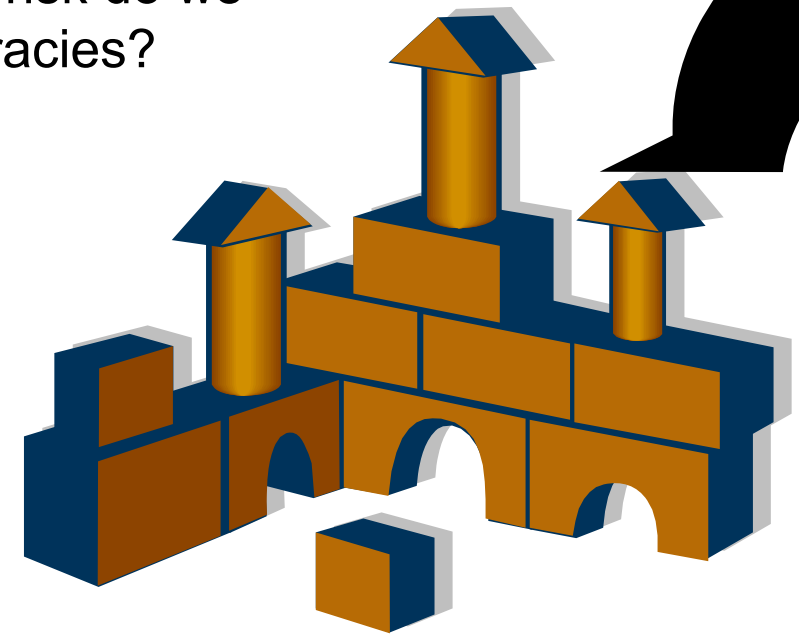
- We collect a lot of information on our jobsite about our employees. What risks do we take in collecting, sharing, and storing this information?

Risk Issue #2

BIM goes BAM

- We record a lot of information on each building element. How much is double or triple checked? What risk do we have for inaccuracies?





Risk Issue #3

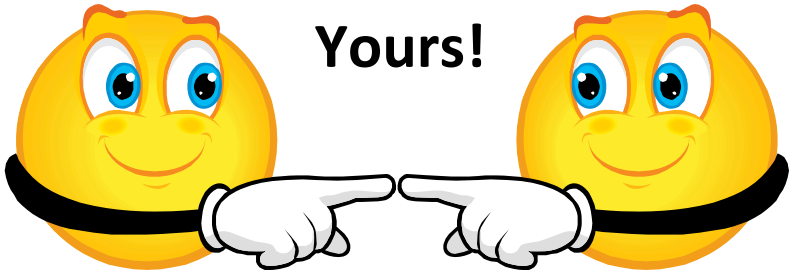
Sustain me, oh Lord

- The promise of sustainable construction requires both new elements of design and of installation. These may well lead to new risks to the installer, the owner, and the public, and ultimately to the insurer.

Risk Issue #4

Collaborative Responsibility

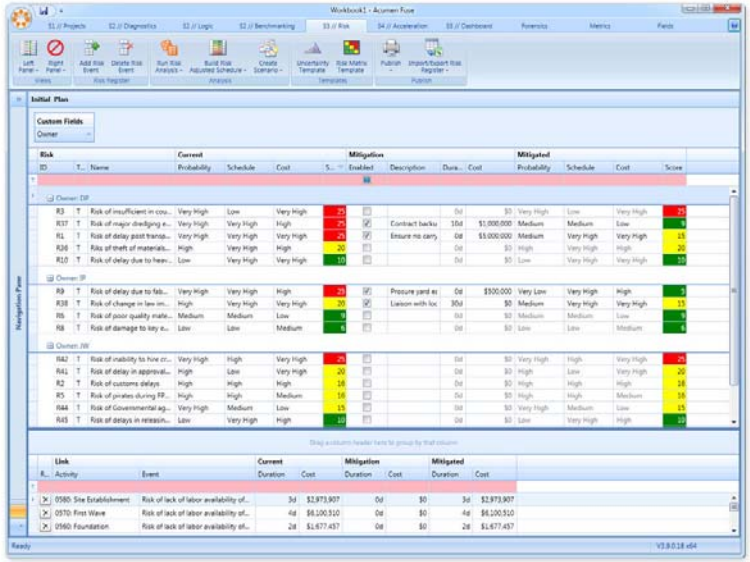
- How does the Spearin Doctrine relate in a world where owners collaborate with design professionals and tiers of contractors and fabricators on Design-Build and P3 projects?



Risk Issue #5

Risk of the Risk Register

- Several of the most commonly used Project Management software products include a Risk Register. What additional risks do project participants incur by use of these software products?

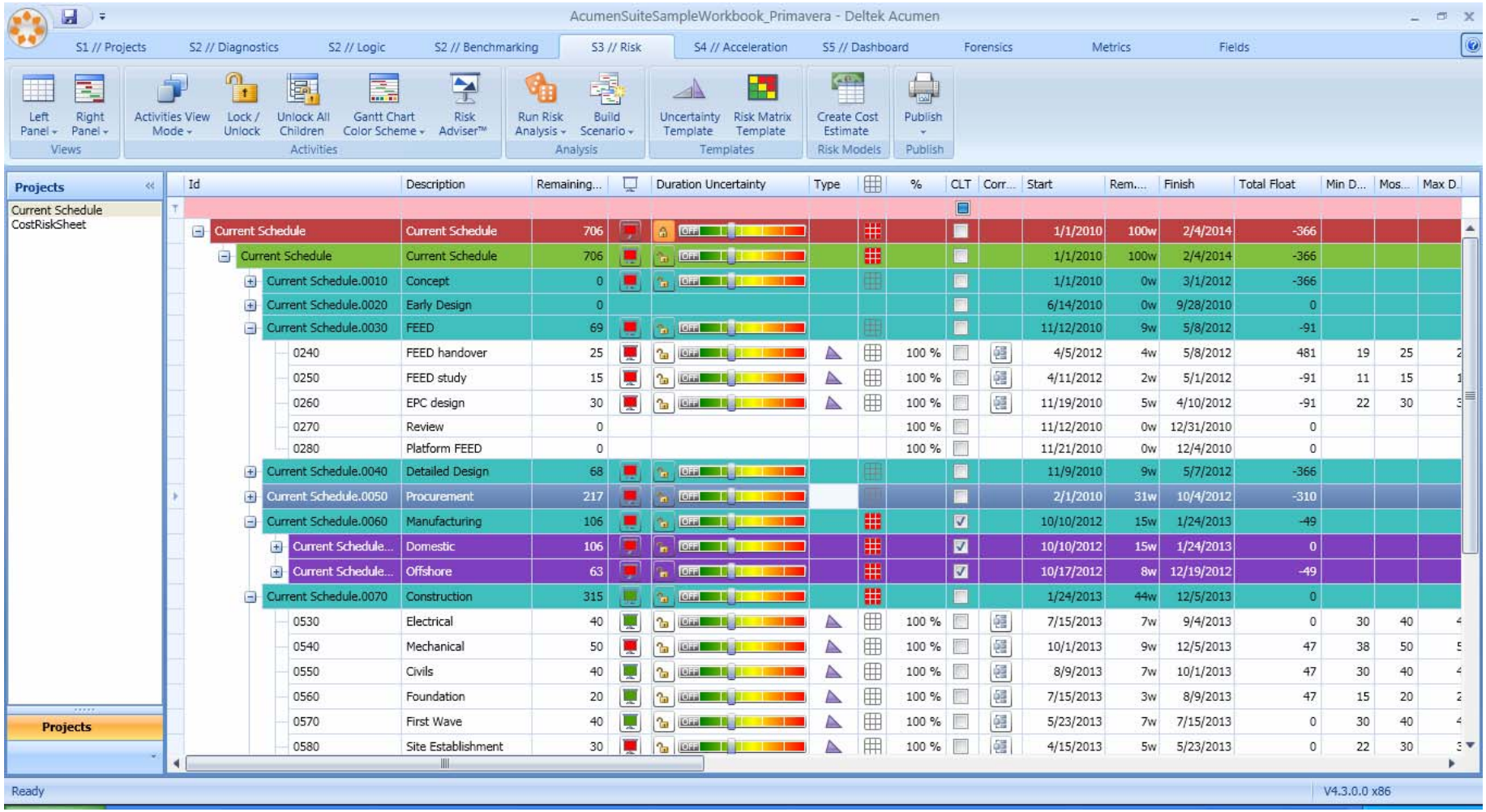


Two Types:

- Analytic - Monte Carlo
- Collaborative

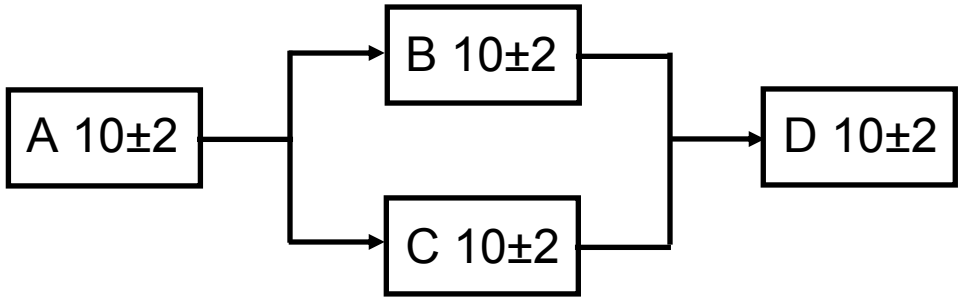
Risk Issue #5

Risk of the Risk Register



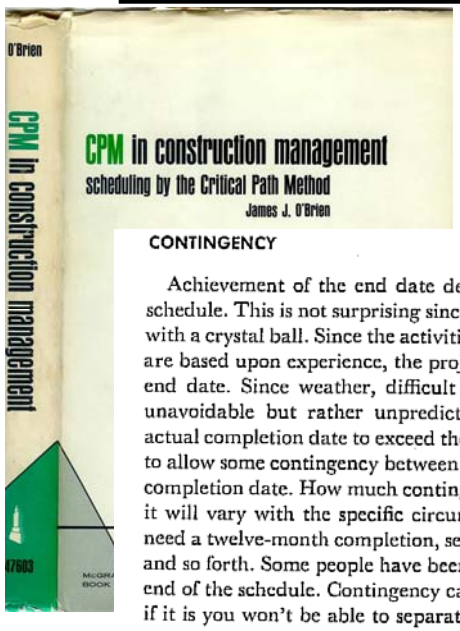
Risk and Monte Carlo Simulation

A 10±2
B 10±2
C 10±2
D 10±2
≈ 40
Estimating



Scheduling

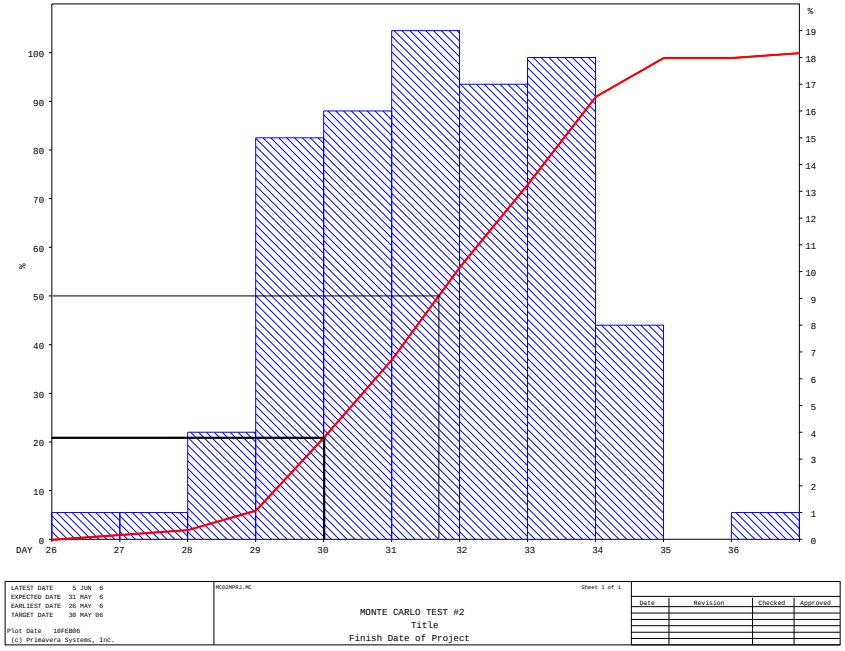
Project Duration ≈ 31⅔



CONTINGENCY

Achievement of the end date desired is unfortunately not an acceptable schedule. This is not surprising since we know that CPM has not furnished us with a crystal ball. Since the activities and times estimates used in the network are based upon experience, the project rarely finishes ahead of the computed end date. Since weather, difficult site conditions, labor disputes, etc., are unavoidable but rather unpredictable, there a definite tendency for the actual completion date to exceed the first CPM end date. It is then reasonable to allow some contingency between the CPM end date and the actual desired completion date. How much contingency? There is no definite answer to this; it will vary with the specific circumstances of the project. However, if you need a twelve-month completion, set your CPM goal at about eleven months, and so forth. Some people have been reluctant to set a flat contingency at the end of the schedule. Contingency can be buried in the activity estimates, but if it is you won't be able to separate true estimates from contingency.

Excerpt from page 142 of CPM in Construction Management



Risk Issue #5

Risk of the Risk Register

Insert from Oracle

Better Specifications

- CPM is a Shop Drawing
- Purpose = Further Assurances
- Owner does not want CPM to **show** timely completion
- Owner wants CPM to **assure** timely completion

Contractor shall provide a CPM:

- that indicates **an 80% likelihood** of completion on or before June 30, 2009
- prepared in the RDM format to separately show **physical planning restraints** from **resource scheduling restraints**
- coded to indicate sub, craft, location …

Updates to the CPM shall include additional reports that incorporate:

- trend analysis starting at 30% for any classification of work or subcontractor
- dynamic re-leveling with up to 25% additional resources if the likelihood of timely project completion falls below 80%
- a cost analysis if resources are to be increased involuntarily beyond 25%

Questions?

- Fredric L. Plotnick, PhD., Esq., P.E.
  - fplotnick@fplotnick.com
  - 215-885-3733
- Jason Burns
  - jburns@hunterrobertscg.com
  - 212-321-6837
- Ronald F. Dellaria
  - RDellaria@Astorino.com
  - 412-287-7499
- Glen R. Mangold, CPCU
  - gmangold@MarkelCorp.com
  - 847-572-6187