Down by the Levee

Zero Degree Constructors

v.

Louisiana Amazing Levee Authority

Today's Lesson Plan

- Mock Trial 2026 NOLA learning objectives:

- Risk is real – is now affordable – and now required knowledge
- Schedulers are consigliore of the project team
- Schedulers must articulate with multiple levels of audience

- An Engineer is not a hired gun and has a higher calling to the public
- An expert witness is not a hired gun and has a higher calling to truth
- A construction professional fact witness must also remain non-partisan

- The law usually says one may specify actions or results – but not both
- The *Spearin* doctrine allows prescription or performance – but not both
- We will examine if *Spearin* applies to a mis-applied scheduling spec

Overview – we will showcase several software products which provide schedule risk analysis

Overview – highlight the different Canons of lawyers and engineers – advocate for client above mostly all else versus public health safety welfare above client if necessary

Overview- Spearin

Our Panel

- Hon. John M. Marshall - *presiding*
- Chris Carsons – *superintendent for ZDC*
  FAACE, FRICS, FGPC, PSP, DRMP, CEP
- Bruce Betz, Esq. – *for ZDC*
- Chris Brainerd, Esq. – *for LALA*
- Fredric L. Plotnick, Ph.D., Esq., P.E.
  – cpm expert for ZDC and moderator

I hope to add slides with photos – biographical notes – etc.

Our Project

- We are rebuilding a levee with several pipeline penetrations
- The Louisiana Amazing Levee Authority (LALA) is the owner
- Zero Degree Constructors (ZDC) is the prime contractor
- Very Independent Utilities include Water, Electric & Gas Authorities

- Specification provides CPM – requires “Use all Time”
- LALA inspector interprets this means “no contingency activity at end”
- Contractor insists contingency needed as Gas Utility tends to be late
- CPM using all time submitted under protest
- LALA interprets it may defer permits and approvals to Late Finishes

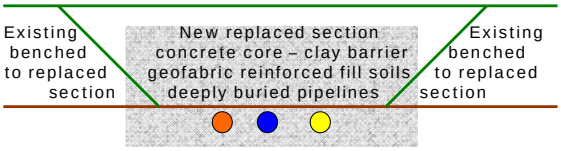
Zero Degree Contractors are proud that they do not need college degrees to understand construction

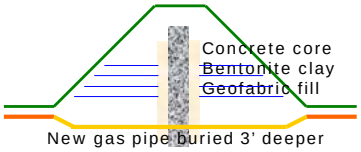
(most senior management has completed second grade – Judge Marshall will speak of Lenny)

Many projects plagued by 3rd party utilities outside of any control – so who is to take risk of their dalliance? – is this a real risk that requires contingency?

Some (govt) specifications required contractor to “use all time” – thus could be interpreted to leave none for possible or even probable overruns by these 3rd parties

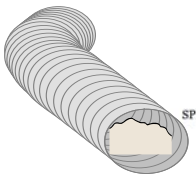
Section 666 on Devil's Curve of the Mississippi River





Do we have a Spearin Issue?

- MacKnight Flintic Stone Co. v. The Mayor, 160 N. Y. 72, 54 N. E. 661, 1899
- United States v. Spearin (248 U.S. 132), 1918



248 U.S. 132
39 S.Ct. 59
63 L.Ed. 166

UNITED STATES
v.
SPEARIN. SPEARIN v. UNITED STATES.

Nos. 44, 45.

Argued Nov. 14 and 15, 1918.
Decided Dec. 9, 1918.

Messrs. Frank W. Hackett, of Washington, D. C., and *Charles E. Hughes*, of New York City, for Spearin.

Mr. Assistant Attorney General Thompson, for the United States.

Mr. Justice BRANDEIS delivered the opinion of the Court.

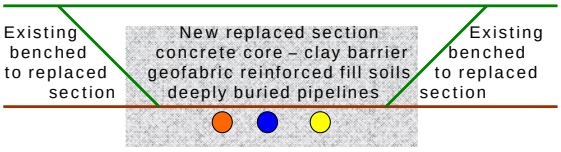
Spearin brought this suit in the Court of Claims demanding a balance alleged to be due for work done under a contract to construct a dry dock and also damages for its annulment. Judgment was entered for him in the sum of $141,180.86 (51 Ct. Cl. 155), and both parties appealed to this court. The government contends that Spearin is entitled to recover only $7,907.98. Spearin claims the additional sum of $63,658.70.

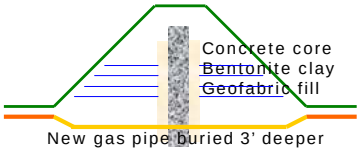
First. The decision to be made on the government's appeal depends upon whether or not it was entitled to annul the contract. The facts essential to a determination of the question are these:

Spearin contracted to build for $757,800 a dry dock at the Brooklyn Navy Yard in accordance with plans and specifications which had been prepared by the government. The site selected by it was intersected by a 6-foot brick sewer; and it was necessary to divert and relocate a section thereof before the work of constructing the dry dock could begin. The plans and specifications provided that the contractor should do the work and prescribed the dimensions, material and location of the section to be substituted. All the prescribed requirements were fully complied with by Spearin; and the substituted section was accepted by the government as satisfactory. It was located about 37 to 50 feet from the proposed excavation for the dry dock; but a large part of the new section was within the area set aside as space within which the contractor's operations were to be carried on. Both before and after the diversion of the 6-foot sewer, it connected, within the Navy Yard but outside the space reserved for work on the dry dock, with a 7-foot sewer which emptied into Wallabout Basin.

Design of the Project
Levee – Electric – Water – Gas

- Reinforced levee design to prevent overflow and penetration
- Three major penetrations – Electric – Water – Gas – Bury all deeper
- Details of levee design – concrete core – bentonite clay – geofabric fill
- Details of electric design – multiple layers of insulation & water-proofing
- Details of water design – “double hull” protection from contamination
- Details of gas design – 100% weld testing – protection from corrosion
- To prevent penetrations from becoming channels .. benching at cuts
- To prevent penetrations from becoming channels .. follow sequence
- To prevent penetrations from becoming channels .. team effort required

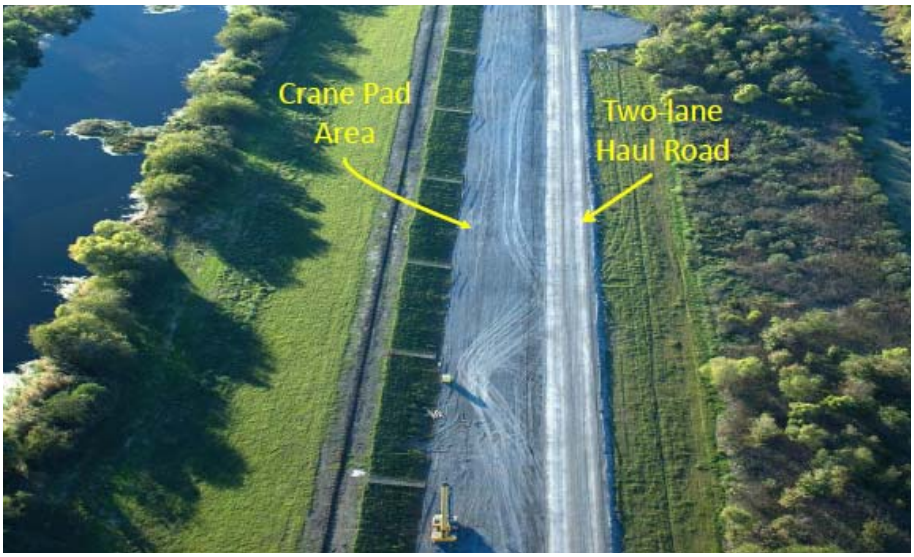




Fred as moderator

Direct testimony of FRED - on need for pipe must be in BEFORE earthworks – Why? Because a failure of the levee could endanger the public

Construction Means and Methods



Fred as moderator

Maybe some thoughts by Chris Carson

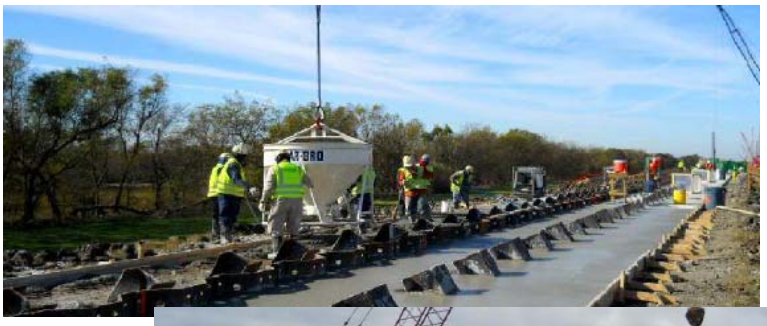
Bench Steps Required at Either End

Fred as moderator

Construction Means and Methods

Fred as moderator

Construction Means and Methods



Fred as moderator

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Why We Finished Late
and With Additional Expense

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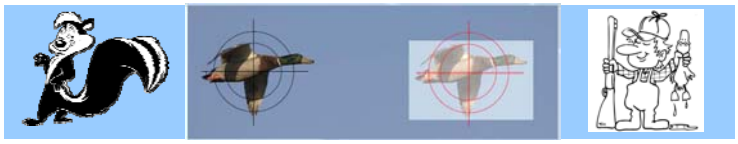


Direct by Bruce with Chris

“Telling contractor to ‘use all float’ and have no contingency is like telling a hunter to aim at the duck in the sky rather than where it is flying” - you get skunked

Bruce: What did ZDC do to accelerate? Acceleration? YES More equipment? YES Second/Third shifts? YES Christmas Day? YES Hunting Season? HELL NO

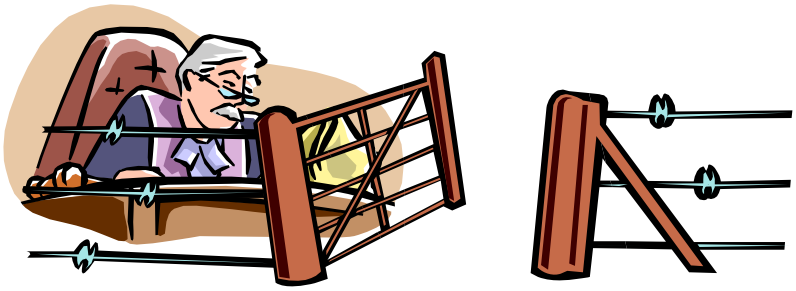
ChrisB: Cross examination – hard and cause Gray to lose cool – “What do want to ask now? My favority color?” “I want the truth!”

Chris: "You can't handle the truth! Son, we live in a world that has levees, and those levees have to be built by men with shovels. Who's gonna do it? You? I have a greater responsibility than you can possibly fathom. You weep for the engineers and you curse LALA. You have that luxury. You have the luxury of not knowing what I know, that the need for this lawsuit, while tragic, probably saved lives. And my existence, while grotesque and incomprehensible to you, saves lives! You don't want the truth, because deep down in places you don't talk about at parties, you want me on that levee. You need me on that levee. We use words like “excavate", “slurry", “backfill". We use these words as the backbone of a life spent defending something. You use them as a punchline. I have neither the time nor the inclination to explain myself to a man who rises and sleeps under the blanket of the very freedom that I provide, and then questions the manner in which I provide it! I would rather you just said "thank you", and went on your way. Otherwise, I suggest you pick up a shovel, and start digging. Either way, I don't give a damn what you think you are entitled to! ” [from A Few Good Men]

John: The attorney may attempt to make you lose cool – don’t

Why ZDC Finished Late
and With Additional Expense

- Expert Witness Presentation by Plotnick
- Voir Dire of Expert – Gatekeeper Function of Judge – Daubert v Frye
- Voir Dire of Expert – Try to Humanize – Try to Distance from Fact-finder

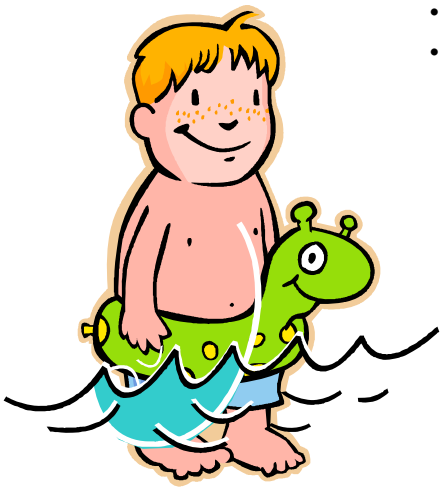


John – overview of Voir Dire – purpose by each side – a bit about Daubert v Frye

Bruce – Voir Dire of Fred – - from CV for credentials - separate pages

Do we want (or have time) for cross by ChrisB? Or ChrisB indicate “often best to get past this asap”

Speak to the Judge and Jury



- "Explain what is a 'CPM' analysis?"
- "What to you mean by 'Float?'"

Or perhaps a Mardi Gras Float?

By ChrisB - Voir Dire of Fred - from CV for credentials - separate pages

- Bruce should discuss importance of "language" – avoid jargon, etc.

- Bruce will introduce Fred – swear him in, etc. – continue voir dire to a point to include Fred's credentials and previous court appearances

-- Bruce will ask the Court if this is enough -- ChrisB will object and suggest enough for Frye but not Daubert

-- John will rule but allow Bruce to continue Voir Dire ..

-- ChrisB will begin cross by addressing Fred as Mr. Plotnick

-- Now ChrisB will cross examine Fred starting with "Is it not true Mister Plotnick ..."

-- Fred will lose cool as being dissed – see A Few Good Men – "I expect to be called Doctor or Professor" "What kind of court do you run, John?" John will respond and comment

-- John will address audience on import of this exchange and ruling

-- however, "not to end today's presentation", John will accept Fred

-Bruce continues asking Fred for some basic definitions such as "what is CPM?"

-- Fred will opine "the critical path method used to distinguish those activities on the critical path from those which have float"

-- John may ask audience if they know what Fred is jargoning about – but would their barber or hair stylist

- Bruce continues to Voir Dire about whether the CPM analysis by Fred is recognized and peer reviewed – and error rate, etc.

-- At the end of the slide Bruce will ask the Court again if this is enough?

-Bruce may continue to ask Fred if he prepared the original CPM (NO) and whether it is a good plan (YES)

-- Fred will continue with the general flow of the plan

Why ZDC Finished Late
and With Additional Expense

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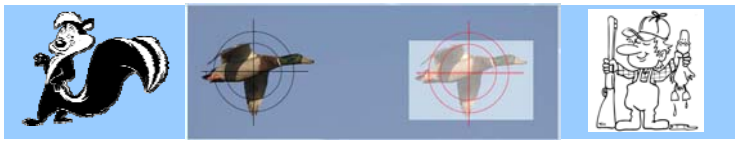
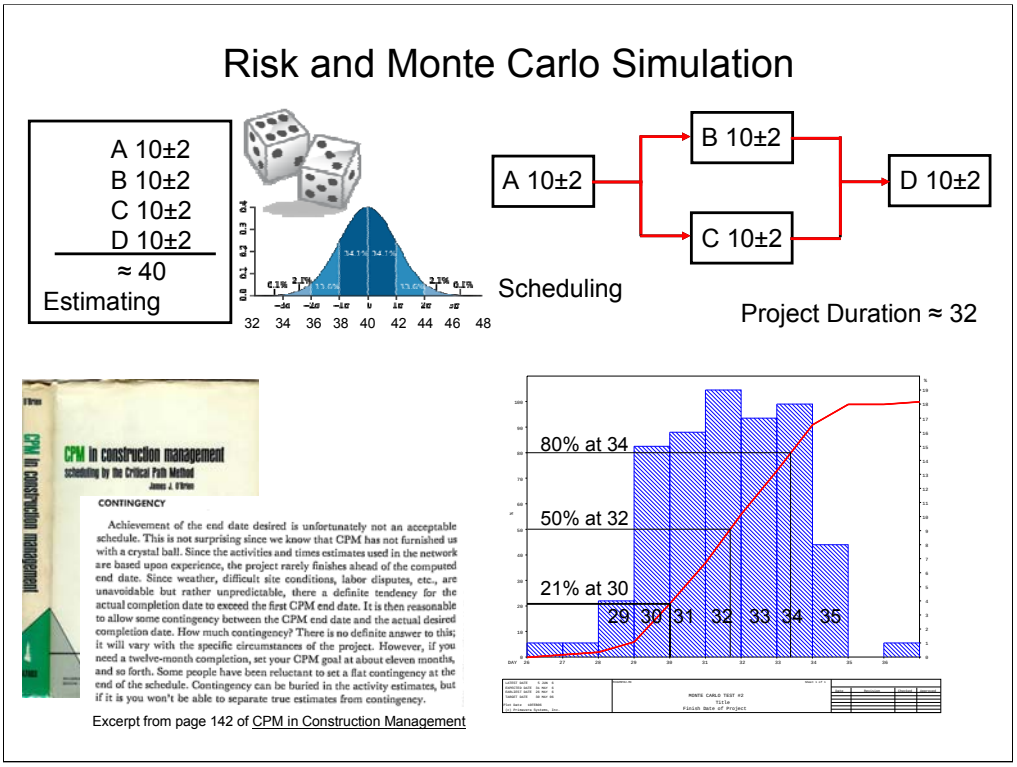
- CPM using all time submitted under protest
- LALA interprets it may defer permits and approvals to Late Finishes
- ZDC had <1% chance to finish by 21JUL16
- ZDC did finish 05SEP16 but had right to finish 15DEC16 .. acceleration



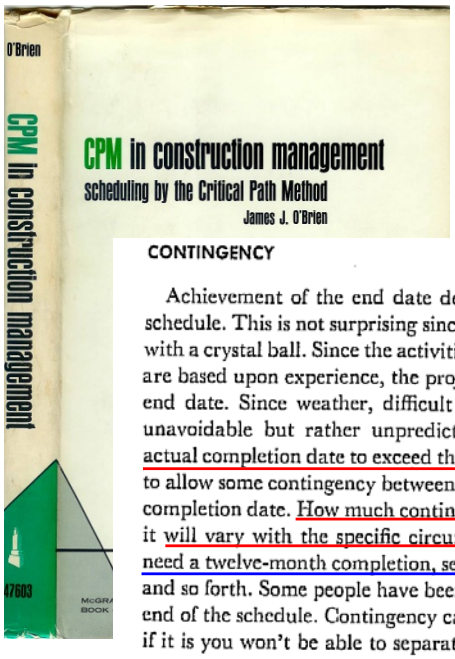
Bruce – Direct of Fred – why spec “read with contract as a whole” must allow contingency for utility and other disruptions

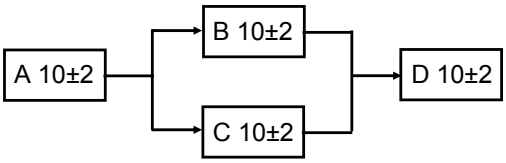


Risk is integral to CPM. The original texts on CPM emphasized that a contingency is required since the calculated CPM completion date will be earlier than the correct solution. Compare this to some recent misguided CPM specifications that require a contractor to use 100% of the contract time provided. Mathematically, this almost assures that the contractor will overrun the stipulated completion date and may legally not only relieve the contractor of that requirement, but entitle the contractor to damages for its late completion.

The reason is merge bias. Look at the two calculations. If we add a list of costs, each which may randomly vary up or down, and run 1000 iterations of this exercise, the average total cost will still be $40. But if we try the same exercise with a schedule where only two activities will merge, the average project duration will be 32 days rather the 30 days calculated by the CPM algorithm. In the case of the estimate, if one cost goes up and another goes down, they average out. In the case of a schedule, if one path is longer and the other shorter, the longer path only is used for the CPM calculation.

It is about time that the CPM calculation comes out to the same date the superintendent expected. And proper specifications should required that the schedule calculated by the CPM logic network have an 80% or 90% likelihood of timely completion.





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 in Scheduling?
Where would I learn about that?

- **MON12 - Preparing a P6 schedule for Risk Analysis**
- Presented by Darryl Townsend of DRMcNatty & Associates, Inc.
- **MON13 - Microsoft New Project and Portfolio Management Solution for Construction Project Management**
- Managing cost, schedule, task updates, risks and collaboration across project stakeholders
- **MON32 - Schedule Risk Analysis doesn't have to be hard!**
- All too often Schedule Risk Analysis (SRA) is only performed because it was required for a proposal. Once the contract is won SRA goes out the window. Where SRA is not mandated it may be ignored because it is perceived as a lot of effort for questionable return. This presentation will demonstrate the benefits of using SRA throughout the project life cycle and show that benefits can be achieved with little additional effort.
  Presented by John Owen, COO of Barbecana Inc.
- **MON42 - Doing a P6/Acumen Risk Analysis**
- Presented by Darryl Townsend of DRMcNatty & Associates, Inc.
- **TUE13 - Deltek Open Plan Download to 1st Update**
- This session will lead attendees from download of Open Plan software from Deltek's website, or from the link provided in the back of of the text CPM in Construction Management, 8th Edition, to delivery of the first update report to management of the Contractor and the Owner. Presented by Rob Edwards

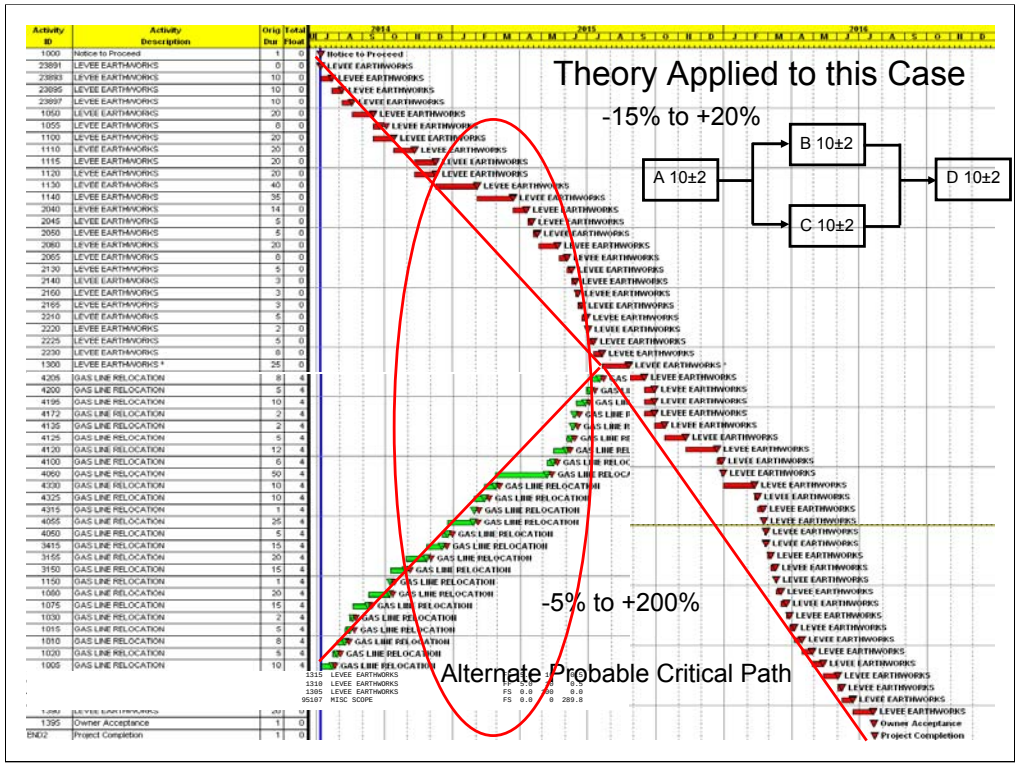
Project ORACLE PRIMAVERA phoenix PROJECT MANAGER

Risk Ready – Risk Integral – Risk Add-On

Deltek Asta Powerproject NetPoint Safran

INTAVER INSTITUTE BARBECANA ACUMEN

Will replace or delete this slide



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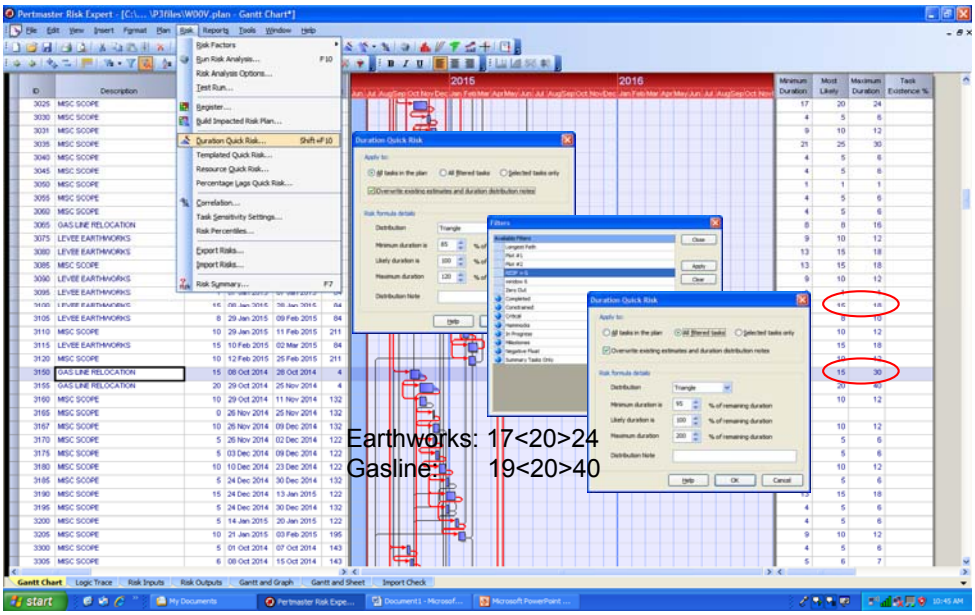
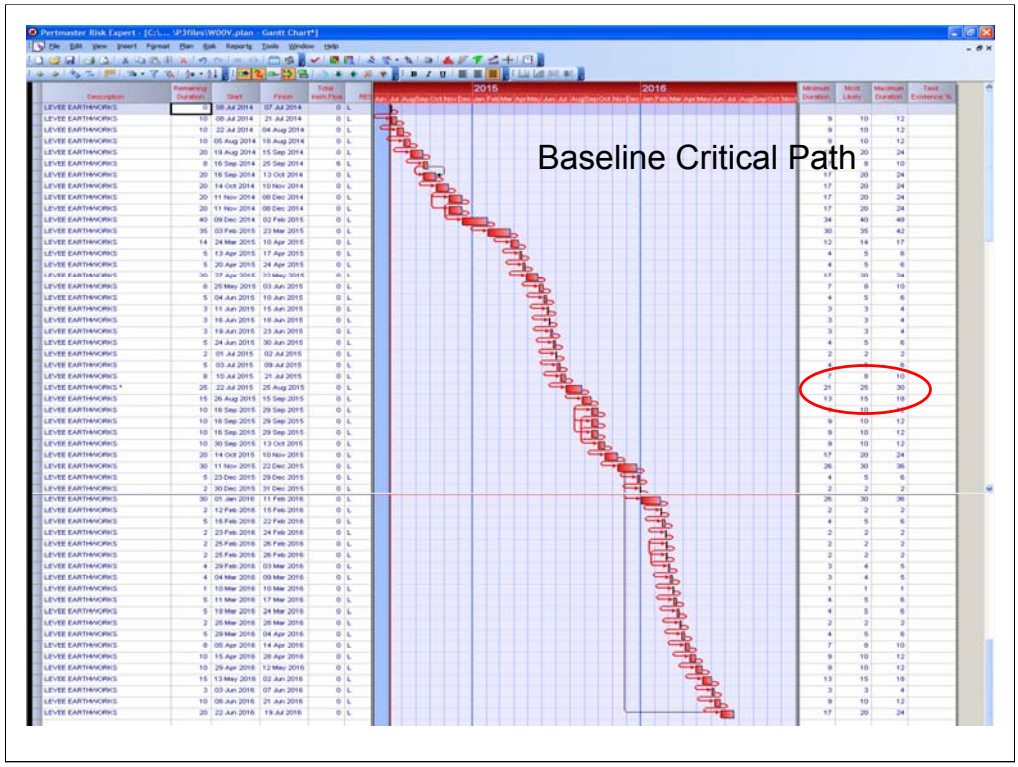
Oracle Primavera (Pertmaster) Risk Analysis



One software solution analysis supports conclusions



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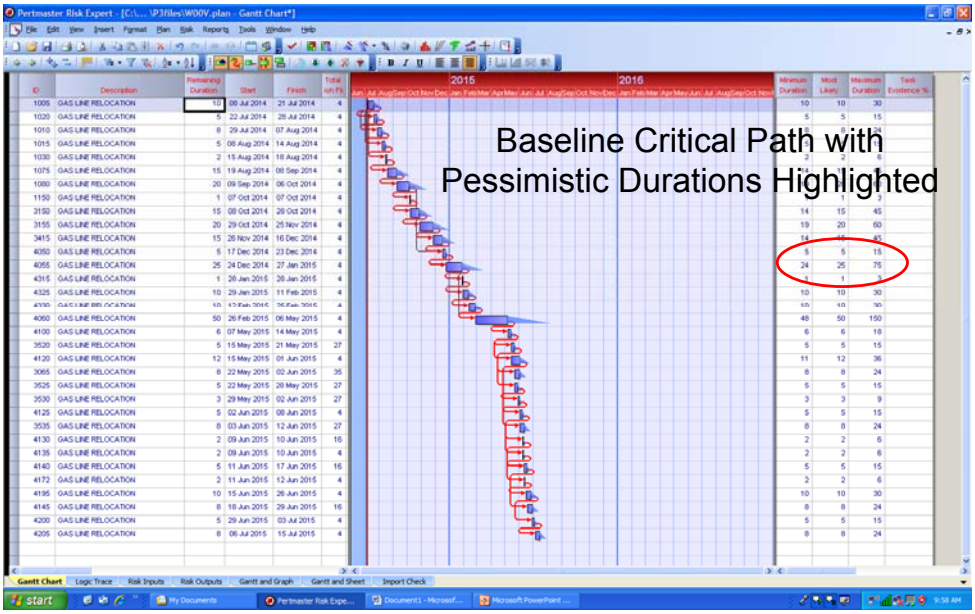

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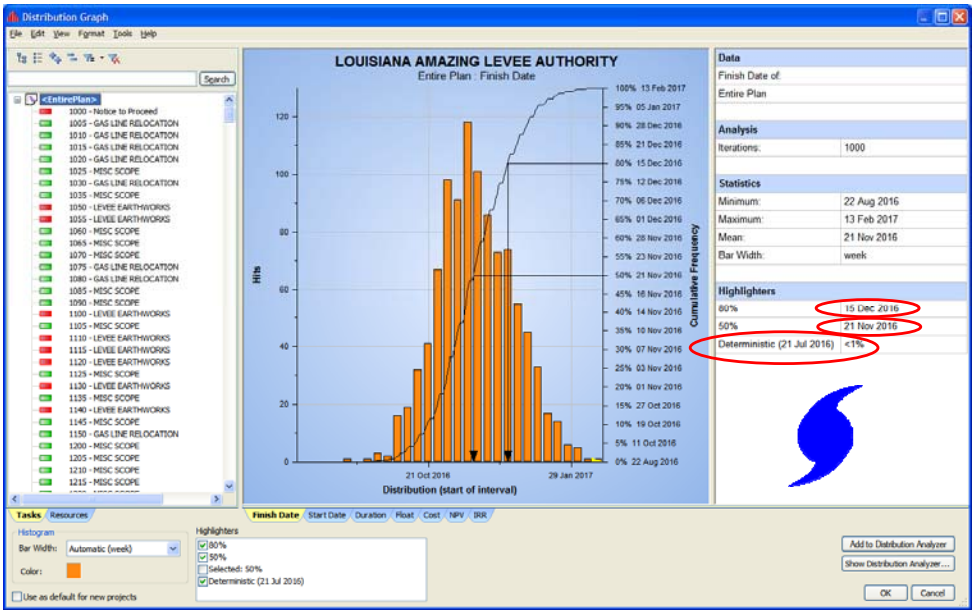

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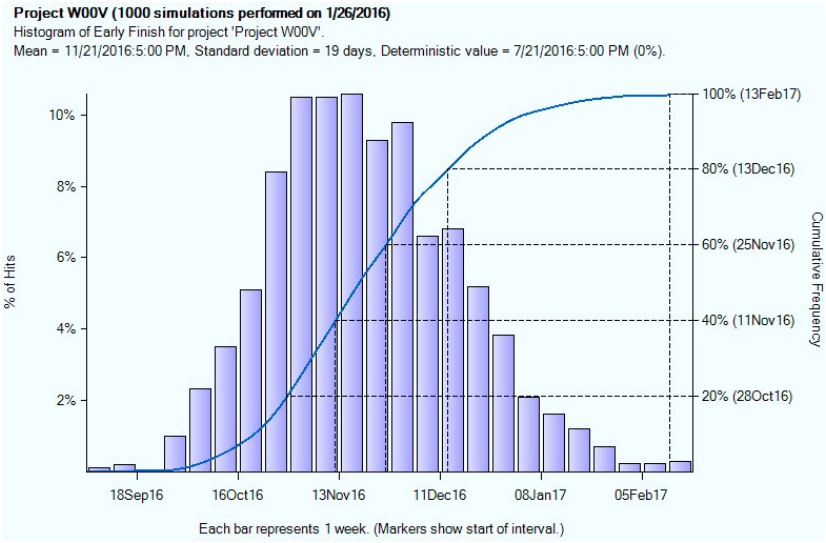
Other software product vendors agree

BARBECANA



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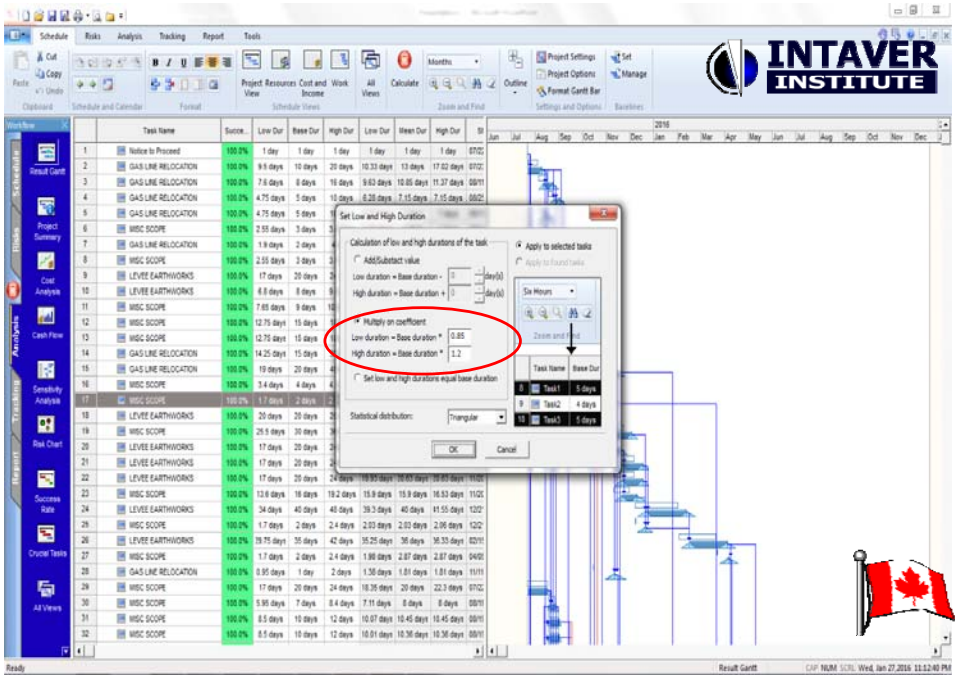

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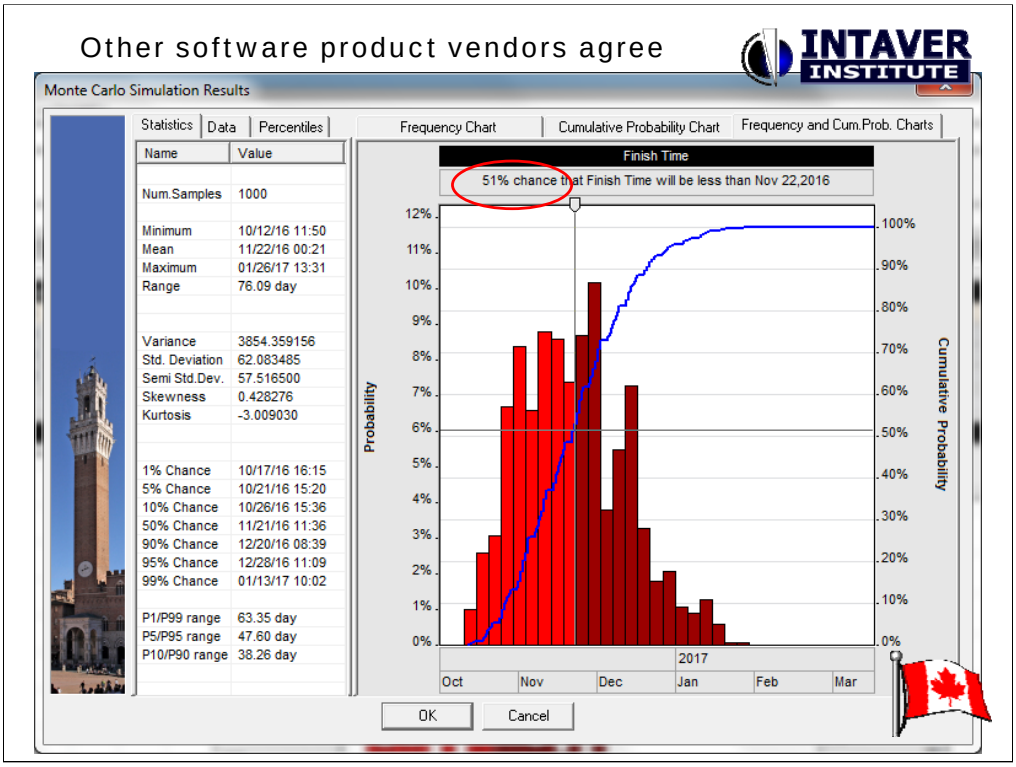

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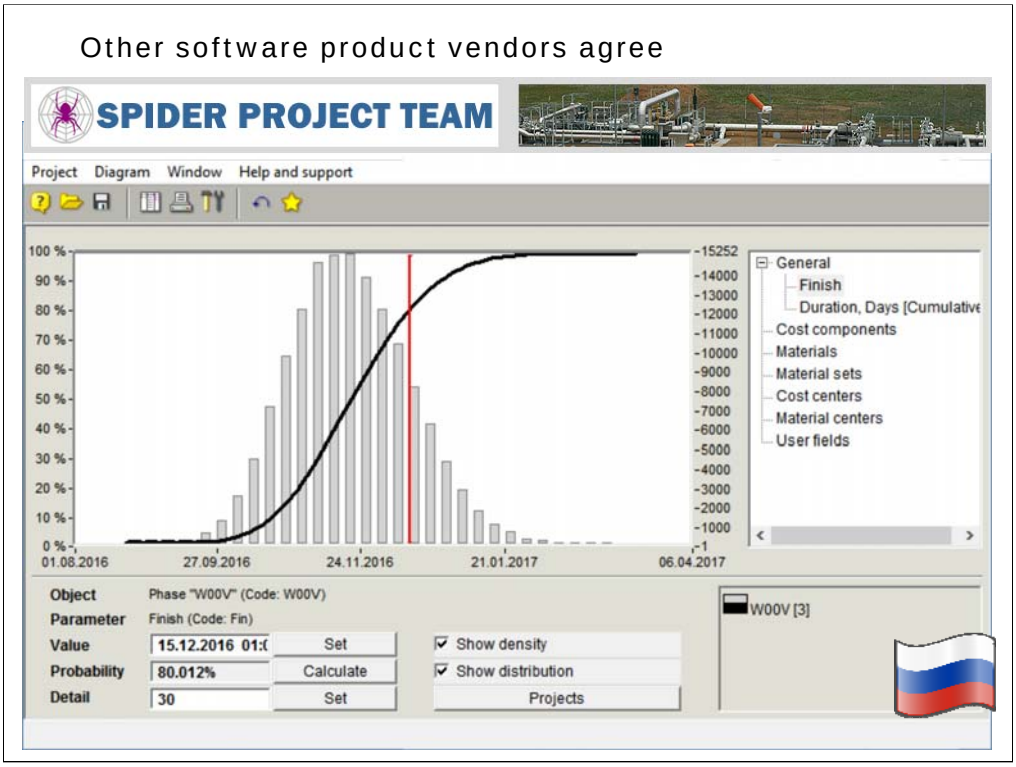
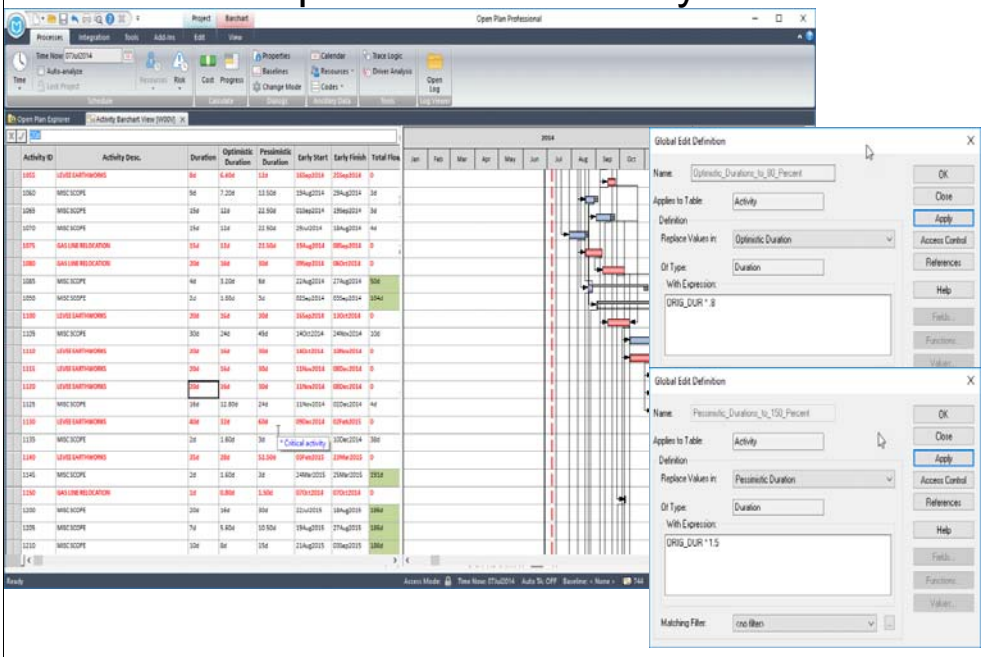


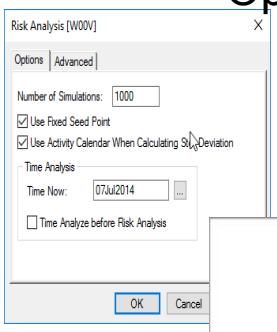
Another software solution analysis supports conclusions

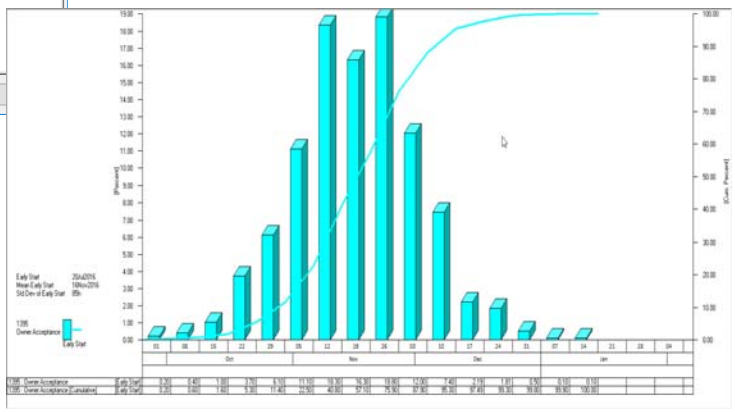
Open Plan Risk Analysis



Quickly set Optimistic and Pessimistic durations and

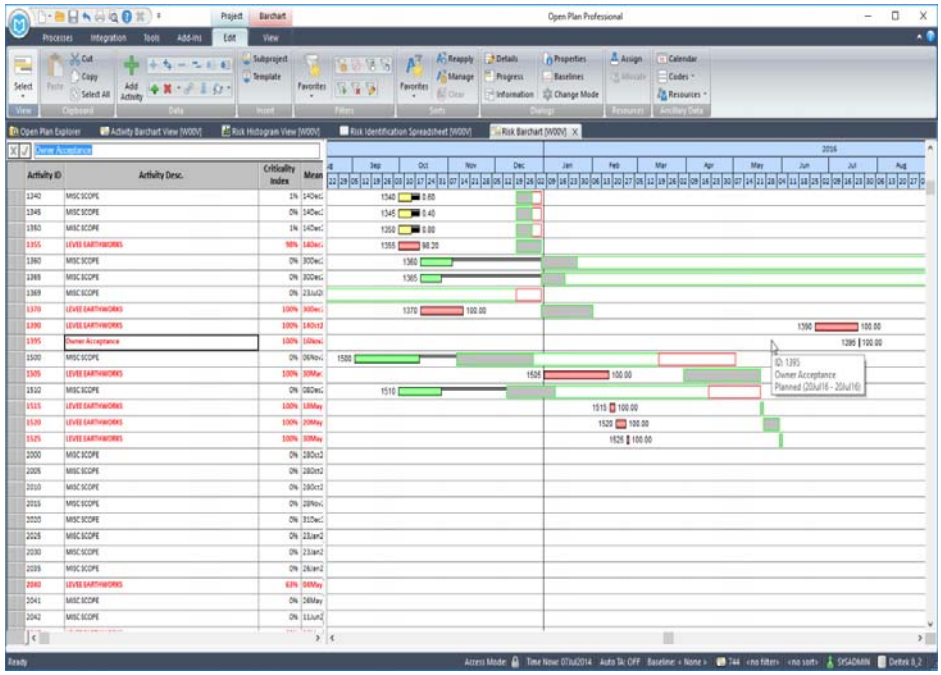
Open Plan Risk Analysis





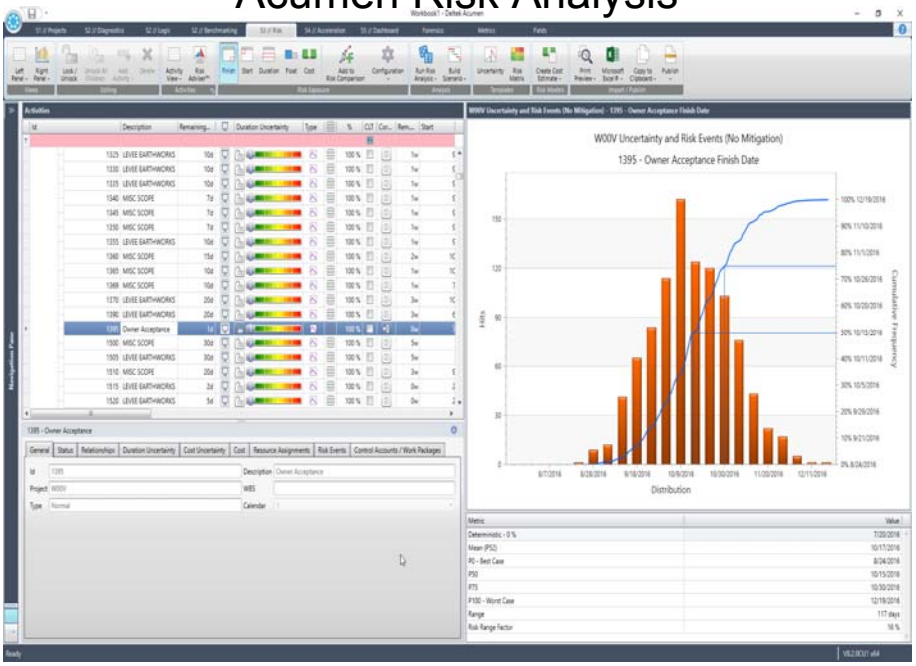
Distribution of Owner Acceptance based on 100 iterations.

Open Plan Risk Analysis



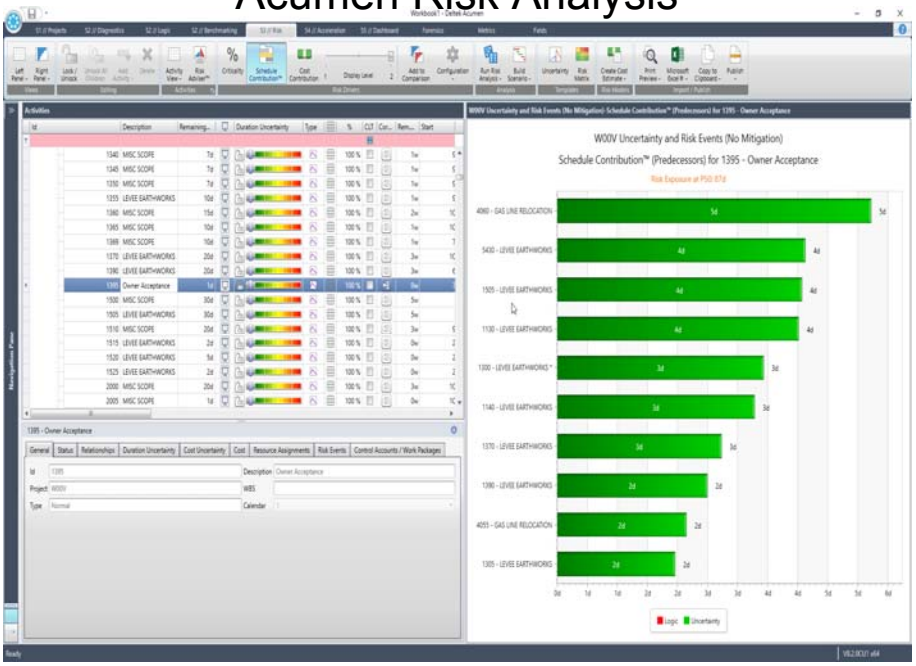
Mean dates and Criticality Index in Risk Barchart.

Acumen Risk Analysis



Risk Exposure for Owner Acceptance.

Acumen Risk Analysis



Activities with Uncertainty Driving Owner Acceptance.

Legal Argument by Attorneys

No time for cross examination of Fred

Leaves time for argument on Spearin and fact set to John and audience

Text by Judge John

Poll the audience - Ask effectiveness of Gray and Fred

Thank Bruce and ChrisB,

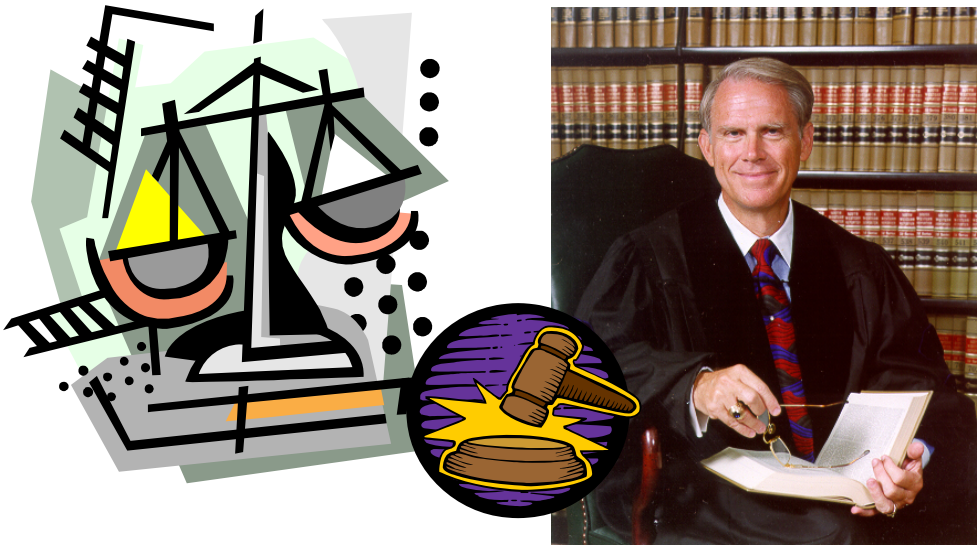
Return mic to Fred

Brief to Court

- PRO
- More like MacKnight than Spearin
- Contractor gave actual concerns of flaw
- Need for contingency supported by analysis
- Analysis supported by Peer Review

- CON
- Contractor gave anecdotal re flaw but did not hire Plotnick in advance to persuade
- Contract says USE ALL TIME
- Contract gives all project float to owner
- Many Gov Agencies use this clause in spec
- Spearin Doctrine disputed in many Law J's
- Spearin Doctrine 100 years old – time to review
- This is LALA's project – money – rules

Decision Time

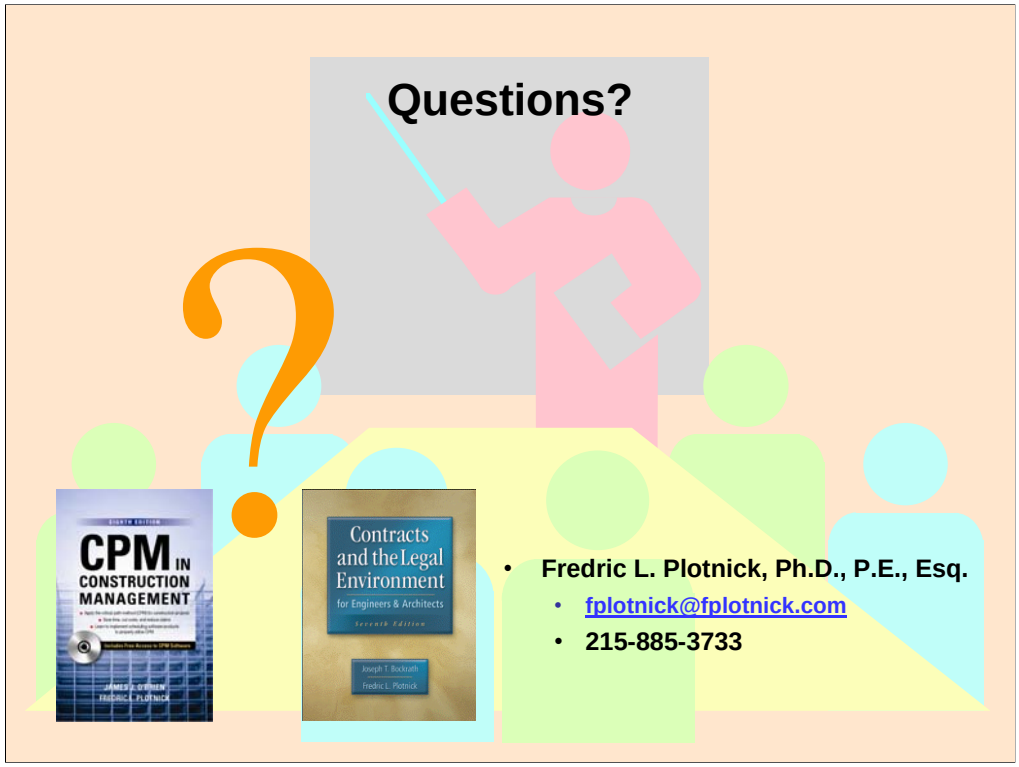


Text by Judge John

Poll the audience - Ask effectiveness of Berkley, Gray, Fred

Thank Bruce and ChrisB

Return mic to Fred



Fred as Moderator