CONSTRUCTION CPM CONFERENCE MOCK TRIAL PRESENTATION

2024 San Antonio TX – our 12th Conference – 26th Trial

Featuring: Hon. John McClellan Marshall Daniel Lund III of Phelps Dunbar Jim Coleman of Zachry Ranjeet Gadhoke of Zachry Fredric L Plotnick, PhD, Esq., P.E.

What we Have Here is a Failure of Communication

Does the Engineer, Contractor and Software all

Speak the Same Language?

Welcome to Mock Trial CCC24

Our Panel

- Hon. John M. Marshall presiding
- Daniel Lund, Esq. attorney for TaxDOT
- Jim Coleman, Esq. attorney for ConnedTractor
- Ranjeet Gadhoke software expert of ConnedTractor
- Adam Saur superintendent for ConnedTractor
- Fredric L. Plotnick, Ph.D., Esq., P.E. moderator and CPM expert for ConnedTractor

The Honorable don John McClellan Marshall

Senior Judge, Fourteenth Judicial District of Texas Sitting by Assignment Honorary Professor of the University, UMCS



JUDICIAL SERVICE - Served as Judge Presiding, Municipal Court of Muenster, Texas, 1976-1980, Judge Presiding, Fourteenth Judicial District of Texas, 1981-2000; Judge for the Dallas County Emergency Medical-Legal Project, 1986-2000, Judge of the Sabine Valley Child Protection Court, 2001-2004.

EDUCATION AND PROFESSIONAL ACTIVITIES - BA — Virginia Military Institute, 1965 (Valedictorian); MA — Vanderbilt University, 1966; Juris Doctor (JD) - Southern Methodist University, 1975; LL.D. (Honorary), Academia Mexicana de Derecho Internacional 1985. Member of The International Academy of Astronautics, elected 1999. Life Fellow of the College of State Bar of Texas. Mensa, 1968-present (President, North Texas Mensa, 2020).





Prize-winning author [George Washington Medal of Freedoms Foundation ("The Bill of Rights") and State Bar College best article of the year 1999], specializing in procedural law [co-author, West's Texas Rules of Civil Procedure, Annotated since 1996]. Associate Historian, Florida Institute of Technology, 1970-71 [wrote history of Apollo-Satura V Launch Operations at Kennedy Space Center]. Technical Instructor, Skylab Program at KSC, 1971-73. Presenter, International Astronautical Congress: Brussels, 1971 ["The Mobile Concept in Apollo-Saturn V Launch Operations"]; Oslo, 1995 ["The Terminator Missed a Chipl: Cyberethics"]. Honorary Professor of the University, 2004, Marie Curie-Sklodowska University [UMCS], Lublin, Poland, Lecturer, University of Texas at Dallas Center for Values in Medicine, Science and Technology, 2012-present. Speaker at MEDEL Conference, Kraków, Poland, 2018 - "The Constitution and the Independent Judiciary"; co-author, Procedent in The Judicial Process: Indges' Perspective in Comparative Approach, UMCS [Lublin, Poland] 2019 [uplished in English and Polish); "The Modern Memory Hole", Athenaeum Review, Fall 2019 (University of Texas at Dallas): "Cyberethics In the 21st Century: The Reign Of The Machines", Mensa Bulletin, January 2020; "Machine-Machine To Major Tom: Cyberethics", IAA/UT Conference on Space Traffic Management, Austin, TX, February 2020. ORCID ID: 0000-0003-4504-144X.

by Dan

Daniel Lund III daniel.lund@phelps.com Phelps Dunbar LLP 365 Canal Street, Suite 2000 New Orleans, Louisiana 70130

Direct dial: 504-584-9325



Mr. Lund is a Partner in the New Orleans office of the law firm of Phelps Dunbar, L.L.P., and for his 35 years of practice has been engaged in general civil litigation, focusing primarily on construction industry and surety matters, products liability, telecommunications law, and zoning.

Dan received his B.A. degree in philosophy from the University of New Orleans, his J.D. degree from Tulane University, and an M.T.S. degree from Duke University. He serves on the Construction, Consumer, and Commercial Arbitration Panels of the American Arbitration Association and on the panel of mediators and arbitrators for Perry Dampf Dispute Solutions nationwide.

Mr. Lund is admitted to practice before all courts in Louisiana and the United States District Courts in Louisiana, as well as the United States District Court for the Northern District of Florida. He is a member of the American Bar Association Fidelity and Surety Law Committee, and is a member of the Louisiana State Bar Association.

At the start of 2023, Dan was honored to be named by Louisiana Super Lawyers to its 2023 list of "Top 50" attorneys across all practice areas in the state of Louisiana.

by John

Jim Coleman, Esq. - attorney for ConnedTractor

Jim Coleman Senior Business Counsel Zachry Construction Corporation

Jim has been an in-house counsel to Zachry Construction Corporation and its affiliates for nine years, managing outside counsel in a variety of construction and design defect disputes and other contract issues in arbitrations and state court and federal court actions. He also supports Zachry's projects, drafting and reviewing contracts and providing legal guidance to Zachry's project teams. Jim received his BS in engineering and a minor in economics from Virginia Tech in 1984. He spent eighteen years in construction management for large commercial contractors, including being a project manager for an expansion of the San Antonio Convention Center, a dorm for UT Arlington, an office building in Plano, Texas, a laboratory for the University of Maryland, and an apartment building in downtown Washington, DC.

by Ranjet

Ranjeet Gadhoke – software expert of ConnedTractor

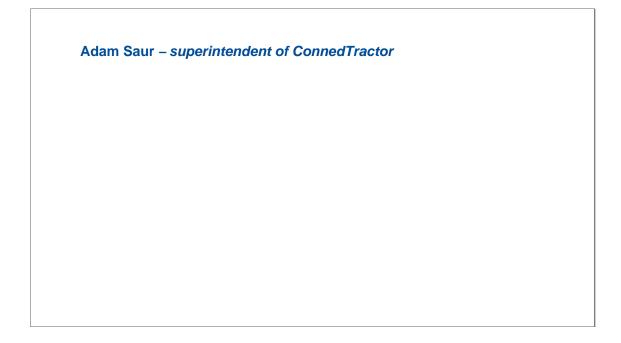
Ranjeet Gadhoke
Ranjeet.gadhoke@zachrycorp.com
Zachry Construction Company
14410 Wurzbach Parkway, Suite 120
San Antonio, TX 78216



Mr. Ranjeet Gadhoke serves as Vice President of Project Controls at Zachry Construction Corporation in San Antonio, Texas. Leveraging over two decades of professional experience in the heavy civil construction sector, he has assumed progressive roles including Field Engineer, Scheduler, Project Manager, and currently, Vice President.

Holding a Master of Science degree in Civil Engineering and Construction Management from Northeastern University, Mr. Gadhoke launched his career by managing over \$500 million in infrastructure projects as part of Boston's \$15 billion Central Artery/Tunnel initiative. As Master Scheduler and Claims/Changes Manager, he successfully negotiated over \$80 million in complex claims and change orders.

After 4 years spearheading operations and providing planning/claims consulting services to firms in India, Mr. Gadhoke joined Zachry Construction in 2008 as Director of Project Controls. In this capacity, he has directed large-scale construction programs and led the Enterprise Resource Planning implementation. Most notably, Mr. Gadhoke established and scaled the newly formed Project Controls Department post-reorganization in 2008. Today, he leads the department in advising and controlling all Zachry projects with respect to scheduling, progress and production tracking, cost control, claims and changes, and risk mitigation.



by JIM

CONTRACTOR'S SCHEDULE ANALYSIS by James J. O'Brien, P.E., PMP Construction Management Dy James J. O'Brien, P.E., PMP, and Fredric L. Plotnick, Ph,D., Esq., P,E. by James J. O'Brien, P.E., PMP, and Fredric L. Plotnick, Ph,D., Esq., P,E.

by John

Our Project



- We are building a section of highway including several elevated structures
- · The project is designed, funded and administered by TaxDOT
- The project is being built by <u>ConnedTractor</u> who signs the <u>NoNegotiation</u> Govt. Contract
- Specification provides contractor to complete all work by 10MAY22
- Spec requires contractor to prepare and utilize a CPM
- and to submit to <u>TaxDOT</u> a PDF of such schedule for review and approval
- Spec requires contractor to prepare claims for delay utilizing "latest version of P3"
- TaxDOT insists this means OPC and will defend right to L/D's and claims with OPC
- What will Judge and (YOU the) Jury make of the competing computer output or opinions?

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Today's Lesson Plan

Software is supposed to but does not model the real world

- Engineers, Schedulers and Contractors may build with a flawed model
- Can a Judge really determine "Truth" from "Experts" reviewing a flawed model?

Understand the difference between a disruption to activity and a delay to project.

- Understand the difference between the 1910 and 1956 Schedule algorithms
- Understand same input to different software may calculate different results

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 specification

FRED:

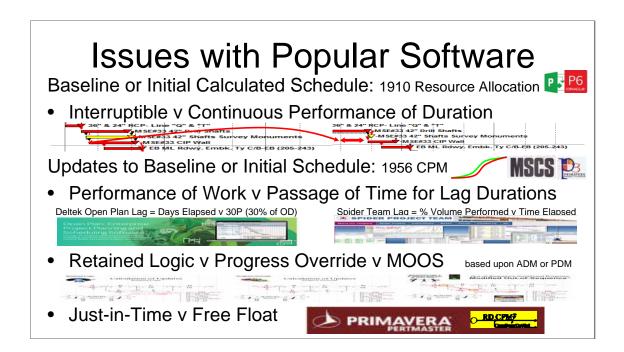
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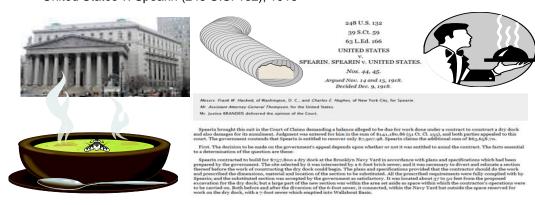


FRED:

- •compare 1910 Gantt Chart to 1956 CPM stress concept of the UPDATE
- stress CPM has double S curce for early and late dates
- •discuss origins of Interruptible and Continuous algorithms and hidden delay to start of third activity
- note Pertmaster offers three choices: Interruptible v Continuous v Stretched
- •discuss performance of work v passage of time
- discuss retained logic logic v progress override v MOOS
- •discuss Just-in-Time v Free Float attributes



- 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



FRED then Dan, Jim, John:

"if you do not want a fly in your soup, why did you order it"

Can demanding a contractor use a software create a Spearin issue?

- We are building a section of highway. We can work with \$100m, including a five-high series of
 overpasses, a tolling plaza to collect fees from drivers at 70mph or higher, and a toll plaza administration
 building. Completion ON-TIME brings a \$4m bonus.
- Some small contract and design issues:
 The Contract states a prime imperative (from the legislature funding project) to speed to meet deadline.
 Thus the rationale for the \$4m bonus. All understanding this "joint" desire, the contractor named ConnedTractor, accepts the promises of owner TaxDOT to "not interfere with ConnedTractor's performance of work."
- The Specification (Section 01.32.01, under Submittals) indicates Contractor shall utilize the "latest version of Primavera P3 or other software of its choosing" and to be provide to TaxDOT "an xer or other computer readable file." [Note P6 is an entirely different software and not "latest version" of P3. Oracle now claims OPC is an entirely different software "from the ground up" from P6.1
- The specification also requires any Claim to be submitted to "Owner's instance of OPC," "Owner to provide Contractor two seats on Owner's instance of OPC," "and that dates calculated on Owner's instance of OPC shall be accepted as correct for purposes of forensic analysis."
 [Note again that OPC is also entirely different software than P6, and that each Owner's instance may calculate a different result than for other instances from same data, and that algorithm of OPC is either proprietary or possibly unknown to the marketing or salesforce of Oracle, much less to one of their "instance" subscribers.]

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- The area is seismically sensitive, and a small but key feature will be the need to place a number of seismic monitors between Drilled Shafts and Cast-in-Place wall. The work to place such is minimal, maybe two days of labor total, but spread out over entire 30 days allocated for drilling shafts. Final placement decided on shaft by shaft basis. The CIP wall may be install starting maybe five days after the first of the shafts (and at least one monitor) are placed, with the last of the CIP wall to be placed five days after the last of the shafts and monitors. To show this in a CPM, the network logic involves using an algorithm that is supported in some but not all software. [P3, ASTA and others support this algorithm; P6 and Microsoft Project do not.]
- The project starts on December 2, 2019, and is moving along as planned when two events occur on 28sep20, each causing disruption to the project. [However we will learn while each causes a disruption to the work and project, only one causes delay to the project, as the work of one is on an activity on the CRITICAL PATH, while the other is to an activity having many weeks of float.]

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- The first "causative event" of 28sep20 is that ConnedTractor discovers as it begins excavation to place
 "Line 'U'" of Sanitary Sewer ranging from 24" to 48" pipe that some of the pipe delivered is of the wrong
 size. ConnedTractor promptly orders replacement pipe but such takes five weeks to fabricate and deliver.
 Pipe must be installed in proper order and this brings this activity to a stop for five weeks.
- The second "causative event" is that the inspector for TaxDOT (whose nickname is 'here is a nickel, buy him a clue so he can do his job,' ergo "Inspector Clue So") believes ConnedTractor has misplaced one or more Columns and stops work on placing caps on the columns so to allow work to continue. After two weeks, TaxDOT's surveyors determine ConnedTractor had it correct the entire time, and that the error was the plans and specifications and ConnedTractor were measuring in meters while the inspector was measuring in yards.
- Inspector Clue So indicates no delay to ConnedTractor because "there was a LOT of other work upon which ConnedTractor could have worked during those two weeks."

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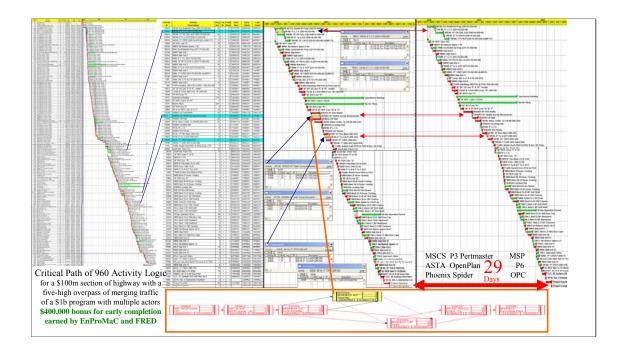
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- ConnedTractor immediately files a "delay claim" calculated in both ASTA and in P3 (to show replicability)
 and requests in advance acknowledgement so that ConnedTractor may spend extra to bring in extra
 crafts and large equipment so to recover the two weeks lost.
- TaxDOT responds that they are not responsible for a possible delay to project, nor cost to mitigate such, claiming the concurrent ConnedTractor issue of wrongfully delivered pipe, AND that new review shows that the Logic Network when run using either P6 or OPC or MSP reveals the initial schedule of ConnedTractor calculated to complete 29 days late, and that the PDF of the Initial Schedule submitted indicated an attempted fraud by ConnedTractor.
- ConnedTractor does bring in extra equipment and crews and eventually mitigates the delay and completes the project on time.
- ConnedTractor requests \$200,000 for acceleration and other mitigation efforts.
- TaxDOT claims a little False Claim violation, refuses to pay \$4m bonus and outstanding invoices.

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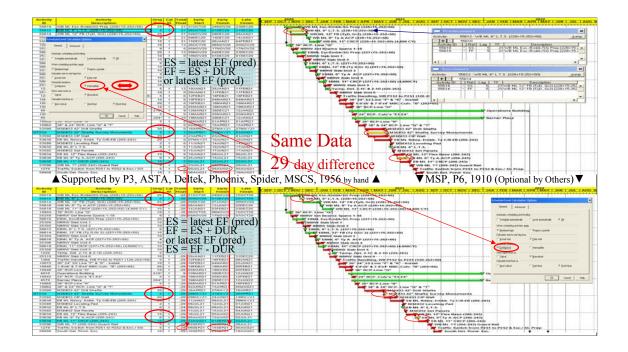
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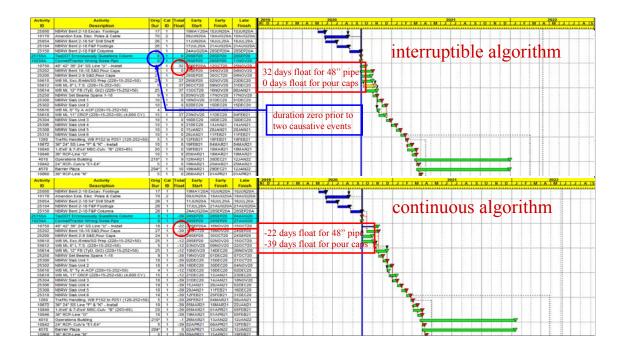


FRED:

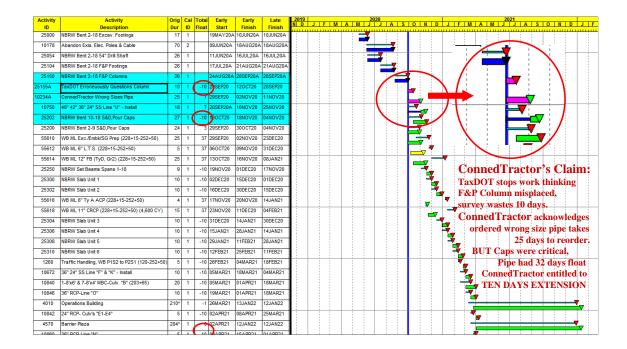
This is the critical path of the 940 activity logic network prepared for this real project Some minor modifications made for purposes of this Mock Trial play Several instances where we have nested overlapping activities (PDM) THREE DEEP see detail Interruptible algorithm understands and no problem



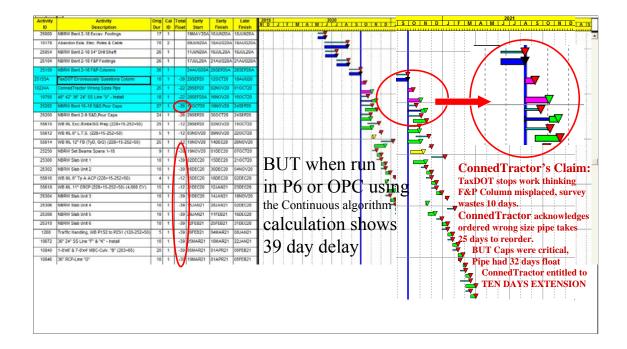
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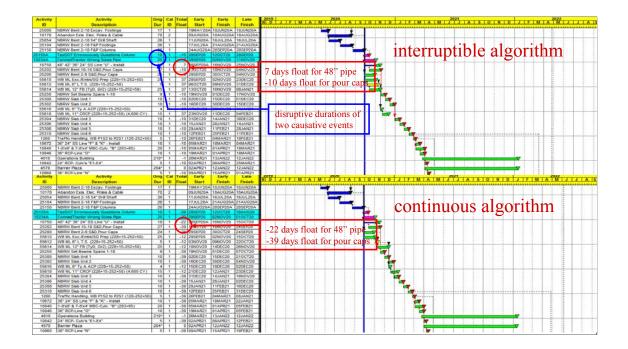
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Direct Examination

Testimony for the Contractor



SHOWTIME
Jim takes the stage ...

Fact Witness

- ConnedTractor's preparation of Logic Network and choice of software
- Ranjeet Gadhoke is our Fact Witness
- · Preparation of Logic Network is by Super and Team
- Choice of software is usually a Corporate Decision
- My experience with a variety of softwares over the years
- P6 v OPC support today and tomorrow
- OPC v ASTA review of features and costs

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My experience with a variety of softwares over the years
P6 v OPC – support today and tomorrow
OPC v ASTA – review of features and costs

Fact Witness

- ConnedTractor's choice of GOD to finish on time and win \$400,000 is:
- Adam Saur is our Fact Witness
- Preparation of Logic Network is by Super and Team and Scheduler
- Job going well until 28sep20 some normal issues all resolved
- Excavation for 42" Sanitary Sewer but discovered 40" pipe delivered
- Inspector Clue So suddenly believes our column in wrong location

Adam Saur is our Fact Witness

Preparation of Logic Network is by Super and Team and Scheduler Job going well until 28sep20 – some normal issues – all resolved Excavation for 42" Sanitary Sewer but discovered 40" pipe delivered Inspector Clue So suddenly believes our column in wrong location

because he measures yards not meters

(and it his employer TaxDOT than mandated use of meters on this project)

Dan's cross examination may try to ruffle Adam:

Dan to say: "There are two types of people in this world. Those with control over taxes collected from the public, and those who dig. You dig."

Adam responds "If TaxDOT needs the project on time, it's my way or no highway." AND ...

Son, we live in a world that has highways, and those highways have to be built by men with shovels. Who's gonna do it? You? I have a greater responsibility than you could possibly fathom. You weep for TaxDOT while we curse their inspectors. You have that luxury. You have the luxury of not knowing what I know; that finishing this highway to carry the ambulances you lawyers chase probably 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 highway. You need me on that highway. We use words like excavators, cranes, pavers. We use these words as the backbone of a life building what the designers can only draw. 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 with my highways, 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 dig.

Either way, I don't give a *damn* what you think you are entitled to!

•

Cross-Examination

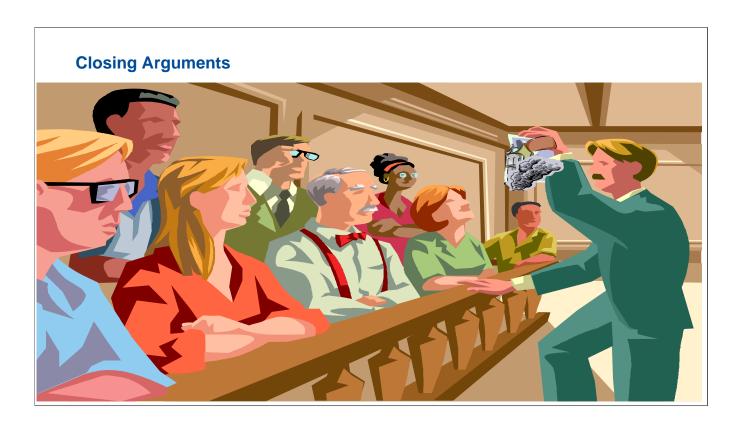


Dan will lecture on issues he would bring up in Cross Examination had this been a real trial and we had time.

Re-Direct Examination



may note desire (not always possible) for expert to educate attorney in advance for typical dangerous cross questions



John will set time limits (3 - 5 minutes each?)

Closing for Plaintiff

- We will assume the FACTS provided above have been introduced.
- Now we will consider the arguments of counsel:
- JIM Coleman for ConnedTractor:
- Simple Case: Concurrent Disruption is not Concurrent Delay
- Sewer work had 32 days float and even after 25 days delay had 7
- Column cap work was critical 10 day delay needs 10 days remediation
- · All other talk just to confuse you

JIM Coleman for ConnedTractor:

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Closing for Defendant

- Dan Lund for TaxDOT:
- Simple Case: We have a Contract
- Claims for time related delay must be performed on our instance of OPC
- OPC review of submitted CPM indicate contractor cannot finish on time
- Contractor needed to work OT to complete on time
- Delays of 25 days to Sewer and 10 days to Column Cap were concurrent

Dan Lund for TaxDOT:

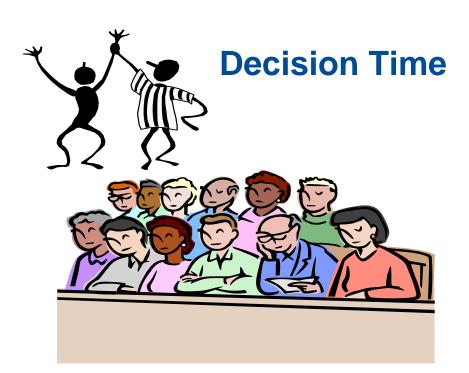
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Delays of 25 days to Sewer and 10 days to Column Cap were concurrent

Rebuttal

- JIM Coleman for ConnedTractor:
- Rebuttal
- "it was worth \$4m to the Legislature to have finished ON-TIME"
- "it was finished ON-TIME despite active interference of TaxDOT's Inspector Clue So"
- "ConnedTractor is entitled to \$180,000 to mitigate TaxDOT's actions"





John will have lots of fun

- •ask for a straw vote of the audience
- •note John will have privately instructed the jury to start out bickering, then move to true vote
- •John will give wireless microphone to Jury to "argue" amongst themselves over their verdict
- •when they agree they will inform John etc. -
- •we need to see how we can watch the jury argue but not know the final result until told



Fred as Moderator