Resolving an Unapproved Prospective Time Impact Analysis

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Resolving an Unapproved Prospective Time Impact Analysis

- **Prospective TIA Methodology**
  - **Well established in industry**
    - **AACE RP for Time Impact Analysis**
    - **Supported by case law in general**
  - **Clearly specified in many contracts**
    - **Army Corps of Engineers contracts**
    - **Navy & other Federal contracts**
    - **Departments of Transportation**
    - **Many private contracts**

Resolving an Unapproved Prospective Time Impact Analysis

- Good use for predictions
  - Modeled approach
  - Easily understandable
  - Future is unknown
  - Risk is shared
  - Uses power of network calculations
  - Durations can be calculated
  - Logic is in keeping with project

Resolving an Unapproved Prospective Time Impact Analysis

- Good use in negotiations
  - Can be clearly stated and shown
  - Graphical support
  - Durations and logic can be reviewed
  - Clear process that can be checked
  - Most discussions center around duration calculation or insertion points
  - Enables partnering in discussions about risk and effects

Resolving an Unapproved Prospective Time Impact Analysis

- Timing important
  - Prepared contemporaneously and prior to impact of analyzed problem
  - Project status is known
  - Other impacts are known
  - Concurrent issues are known
  - Must be done rapidly without fail

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- **Failure of process**
  - Late production of the TIA, so that impacts have already been felt and risk is no longer shared between Contractor and Owner
  - Faulty methodology used in the TIA, so it cannot be approved or takes multiple review and rejection cycles to get approval
  - Production of a incomplete TIA through failure to consider other concurrent delays

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- **Failure of process**
  - Failure to recognize an impact event, so the TIA is not produced
  - Production of an overly pessimistic TIA, which is not negotiated timely or at all
  - Uncooperative Owner representative's failure to consider submittal of TIA
  - Rejection by an Owner's representative who wants to wait to see what happens
  - No party treats time like they do money
  - Prospective TIAs often serve as the basis for a Contractor's acceleration claim

Resolving an Unapproved Prospective Time Impact Analysis

- Preparing a Prospective Contemporaneous Time Impact Analysis during project (see AACEi RP)
  - Update the schedule
    - Progress update
    - Update logic to model the project
    - Identify any slippage as baseline
    - Identify any concurrent delay events
  - Confirm schedule is an accurate model of current project
  - Design and develop a fragnet to represent impact event
  - Insert fragnet
  - Make logic connections
  - Recalculate schedule
  - Identify changes to milestones
  - Identify delays to Critical Path

Resolving an Unapproved Prospective Time Impact Analysis

- **Why is an alternative process important?**
  - **Problem becomes competing types of analysis**
    - **An ongoing delay event analysis still prospective**
    - **A completed delay event, in a forensic manner**
    - **In general, there is no clear consistent approach followed**
  - **As the period updates roll on, more impact events occur**
  - **Multiple events overlap and create concurrent problems**
  - **The sheer volume overwhelms the project team**
  - **Relationships suffer through misunderstandings and distrust**
  - **TIAs are typically used to support acceleration claims, real or not**

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- **Resolution**
  - Always prepare a contemporaneous TIA
  - Leave the fragnet in the schedule
  - Disconnect the logic so it cannot drive the logic
  - Filter out so it is not visible if necessary
  - Identify the successors to the fragnet
  - Set up filters and layouts so the fragnet and its successors can be isolated and shown
  - Update the fragnet along with the rest of the schedule so it will maintain a good as-built

Resolving an Unapproved Prospective Time Impact Analysis

- **Analysis – Part 1**
  - **Once the impact is known**
    - **Use the original schedule with inserted fragnet (the TIA)**
    - **Display the fragnet and its successors**
    - **Target or show Baseline to future update schedule with actual progress**
    - **Compare predicted performance with actual performance**
    - **Set up layouts to show slippage bars**
    - **Identify actual slippage in successor activities**

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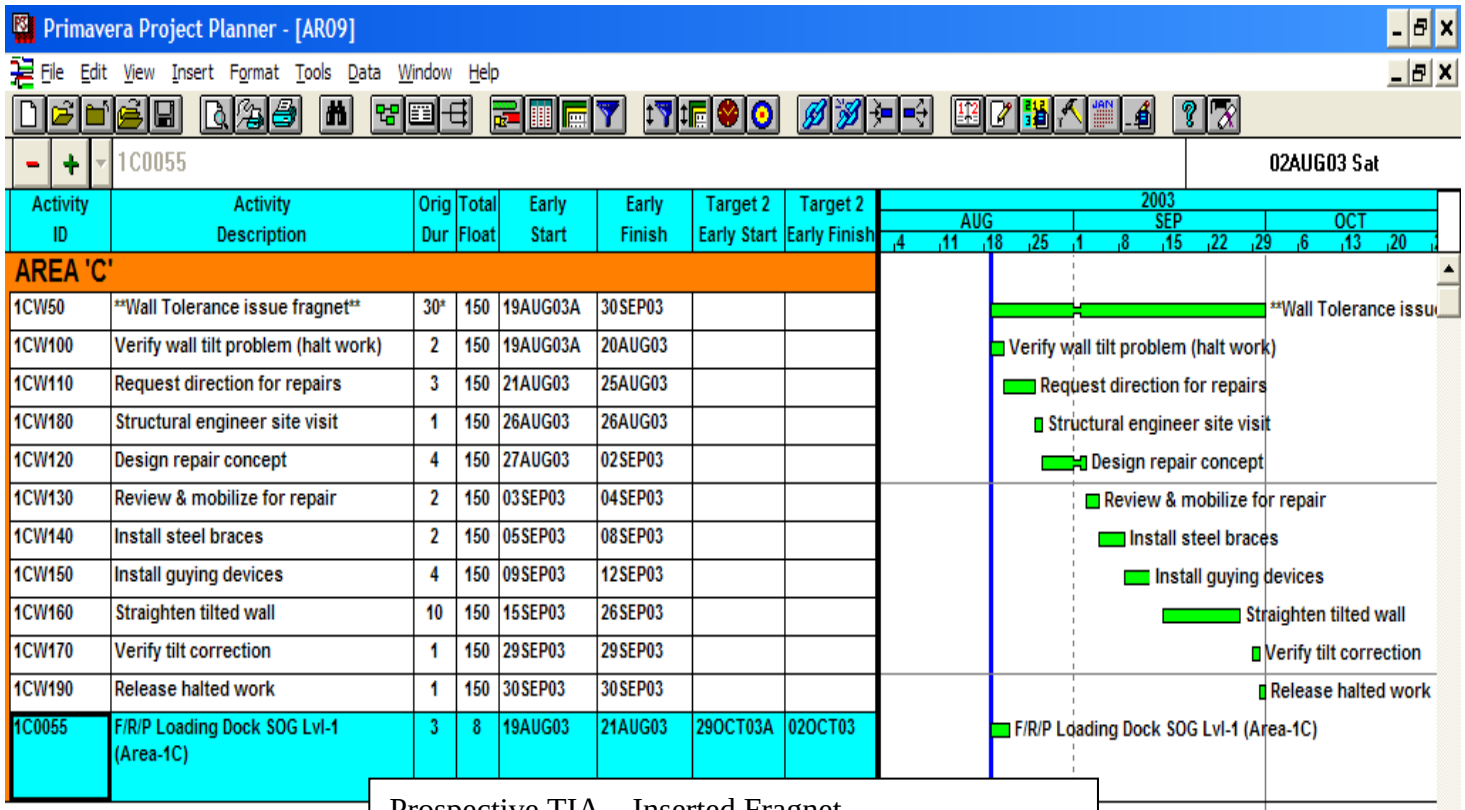
- **Updated schedule with fragnet inserted, not tied in logically**



Activity ID	Activity Description	Orig Dur	Total Float	Early Start	Early Finish	Target 2 Early Start	Target 2 Early Finish
AREA 'C'							
1CW50	**Wall Tolerance issue fragnet**	30*	150	19AUG03A	30SEP03		
1CW100	Verify wall tilt problem (halt work)	2	150	19AUG03A	20AUG03		
1CW110	Request direction for repairs	3	150	21AUG03	25AUG03		
1CW180	Structural engineer site visit	1	150	26AUG03	26AUG03		
1CW120	Design repair concept	4	150	27AUG03	02SEP03		
1CW130	Review & mobilize for repair	2	150	03SEP03	04SEP03		
1CW140	Install steel braces	2	150	05SEP03	08SEP03		
1CW150	Install guying devices	4	150	09SEP03	12SEP03		
1CW160	Straighten tilted wall	10	150	15SEP03	26SEP03		
1CW170	Verify tilt correction	1	150	29SEP03	29SEP03		
1CW190	Release halted work	1	150	30SEP03	30SEP03		
1C0055	F/R/P Loading Dock SOG Lvl-1 (Area-1C)	3	8	19AUG03	21AUG03	29OCT03A	02OCT03

Prospective TIA – Inserted Fragnet

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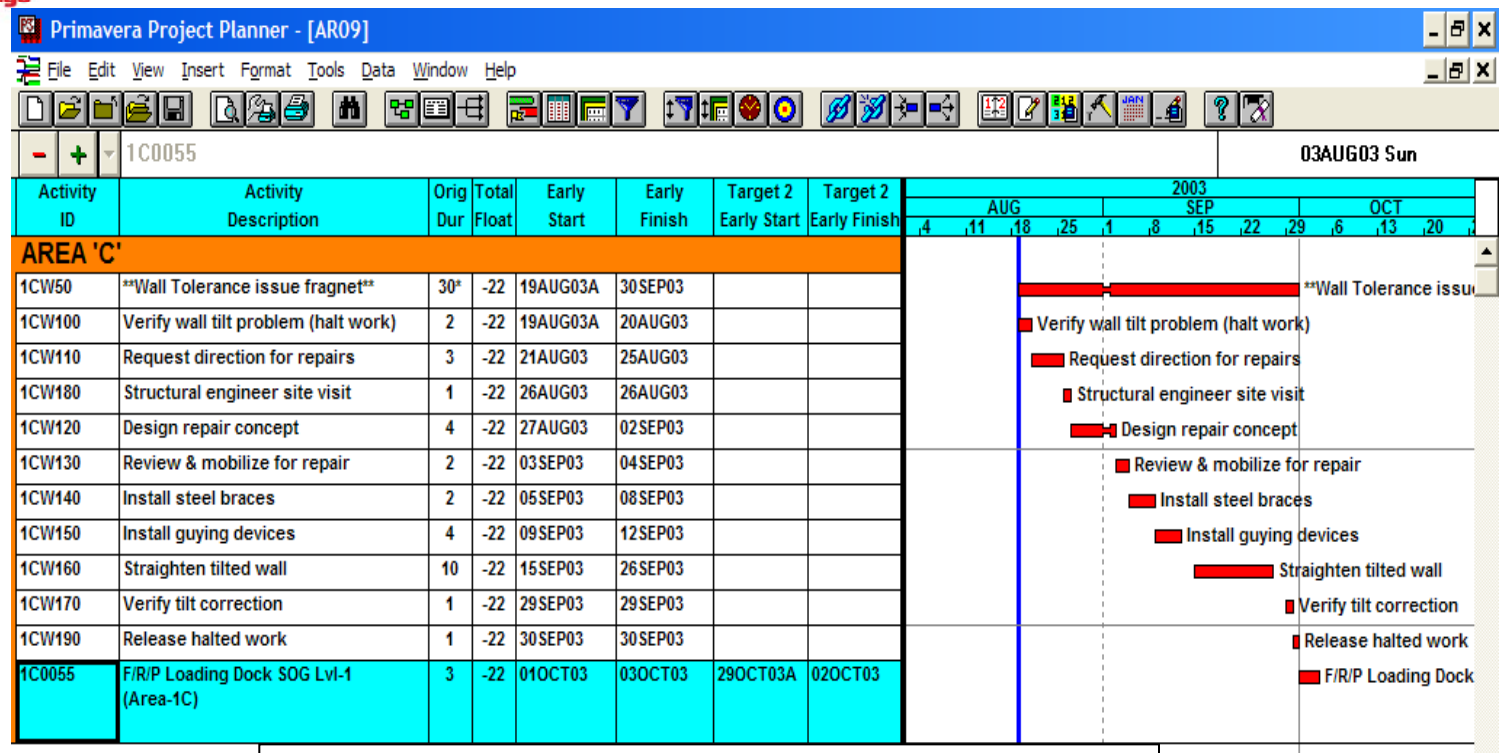
- **Fragnet inserted, tied logically & calculated – PTIA submittal**



Activity ID	Activity Description	Orig Dur	Total Float	Early Start	Early Finish	Target 2 Early Start	Target 2 Early Finish
AREA 'C'							
1CW50	**Wall Tolerance issue fragnet**	30*	-22	19AUG03A	30SEP03		
1CW100	Verify wall tilt problem (halt work)	2	-22	19AUG03A	20AUG03		
1CW110	Request direction for repairs	3	-22	21AUG03	25AUG03		
1CW180	Structural engineer site visit	1	-22	26AUG03	26AUG03		
1CW120	Design repair concept	4	-22	27AUG03	02SEP03		
1CW130	Review & mobilize for repair	2	-22	03SEP03	04SEP03		
1CW140	Install steel braces	2	-22	05SEP03	08SEP03		
1CW150	Install guying devices	4	-22	09SEP03	12SEP03		
1CW160	Straighten tilted wall	10	-22	15SEP03	26SEP03		
1CW170	Verify tilt correction	1	-22	29SEP03	29SEP03		
1CW190	Release halted work	1	-22	30SEP03	30SEP03		
1C0055	F/R/P Loading Dock SOG Lvl-1 (Area-1C)	3	-22	01OCT03	03OCT03	29OCT03A	02OCT03

Prospective TIA – Inserted Fragnet - Recalculated

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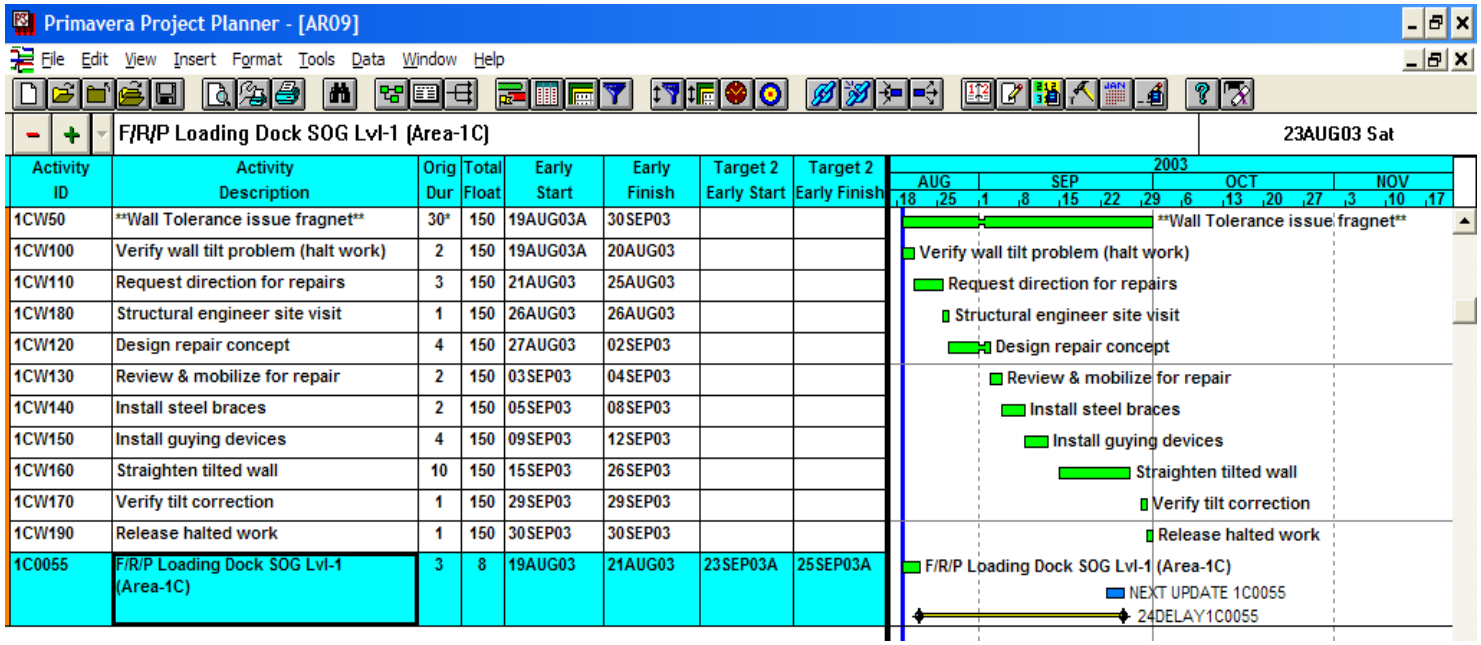
- **TIA Schedule with target to future update with impact event complete – TIA not tied in logically, just used for comparison**



Activity ID	Activity Description	Orig Dur	Total Float	Early Start	Early Finish	Target 2 Early Start	Target 2 Early Finish
1CW50	**Wall Tolerance issue fragnet**	30*	150	19AUG03A	30SEP03		
1CW100	Verify wall tilt problem (halt work)	2	150	19AUG03A	20AUG03		
1CW110	Request direction for repairs	3	150	21AUG03	25AUG03		
1CW180	Structural engineer site visit	1	150	26AUG03	26AUG03		
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1CW140	Install steel braces	2	150	05SEP03	08SEP03		
1CW150	Install guying devices	4	150	09SEP03	12SEP03		
1CW160	Straighten tilted wall	10	150	15SEP03	26SEP03		
1CW170	Verify tilt correction	1	150	29SEP03	29SEP03		
1CW190	Release halted work	1	150	30SEP03	30SEP03		
1C0055	F/R/P Loading Dock SOG Lvl-1 (Area-1C)	3	8	19AUG03	21AUG03	23SEP03A	25SEP03A

Prospective TIA – Inserted Fragnet – Targeted to Actual Progress Next Period

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- Tips
  - Set up a bar called “slippage”
  - Set Start point to the current Early Finish
  - Set Finish point to the Target Early Finish
  - The bar shows the slippage from the original completion to the actual completion
  - Add labels as necessary

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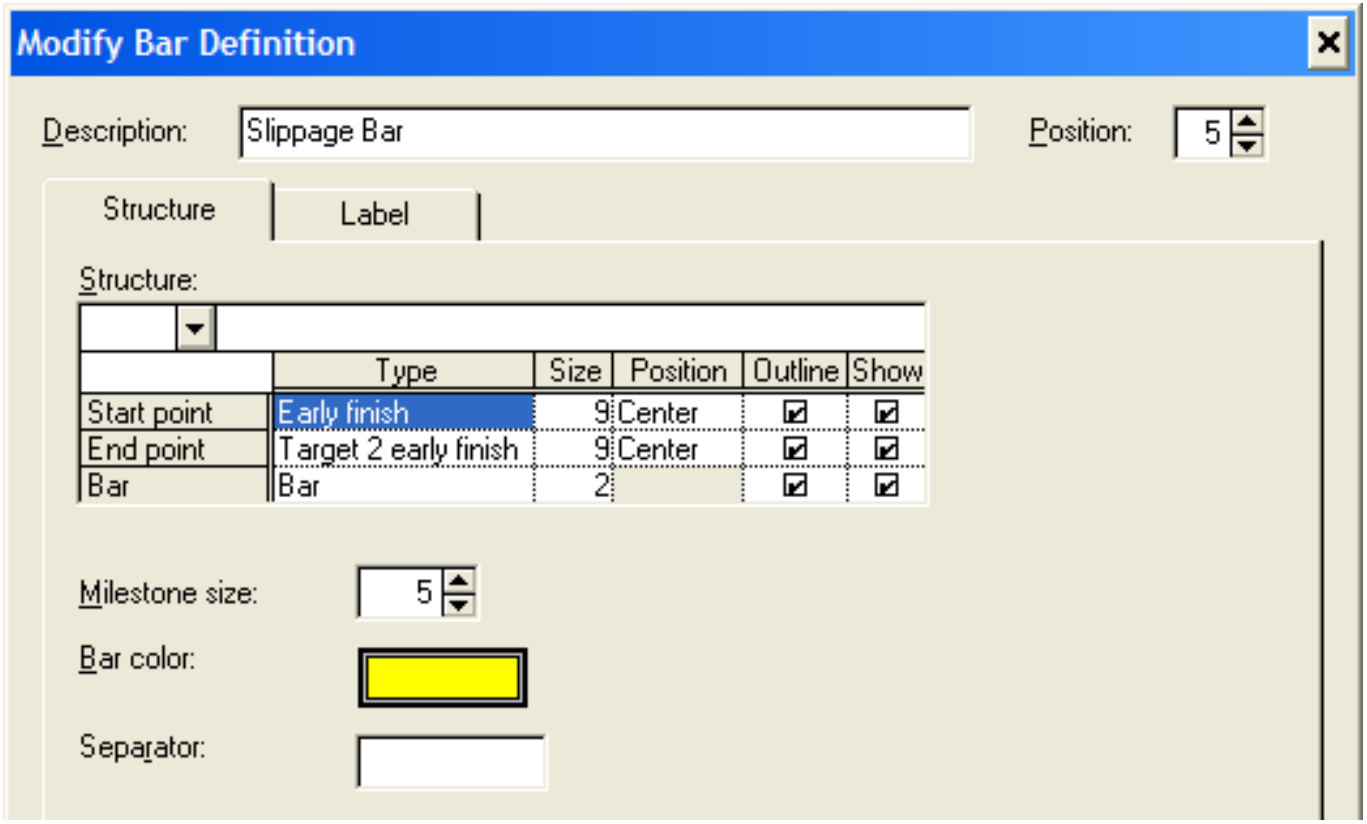
- **Slippage Bar**



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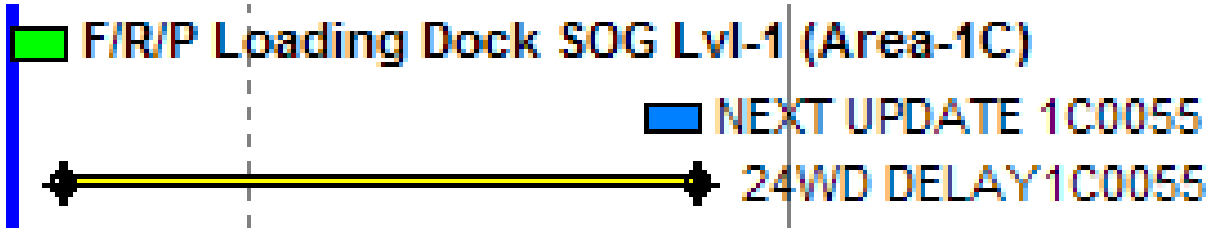
- **Bar details**



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- **Analysis Part 2**
  - **Resources – the best way to analyze for acceleration**
    - **Absolutely critical that resources are tracked**
    - **If schedule is not resource loaded, load all affected activities**
    - **Load resources in fragnet activities**
    - **Must provide a plan for resource use for all activities that will be affected**
    - **This allows tracking of actual against planned**

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- **Analysis Part 2**
  - **Increase in resource consumption over plan is one of the ways to confirm acceleration**
  - **If actual resources are no greater than planned resources, then gains in completion over the TIA are**
    - **Not due to acceleration**
    - **Not supportive of acceleration claims just because the actual completion dates are earlier than the predicted dates in the original TIA**
    - **Possibly due to a variety of factors**

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- **Analysis Part 2**
  - **Other possible factors**
    - **Good project management actions such as strong monitoring of subcontractors**
    - **Owner actions such as redefining of Milestone completions**
    - **Elimination or reduction of time contingencies built into logic or durations**
    - **Fixing poor logic or logic that does not model the project sequencing**
    - **Luck**

Resolving an Unapproved Prospective Time Impact Analysis

- Conclusions
  - Good way to track unresolved TIA issues
  - Allows for concurrent issues to be tracked because
    - The modeling does not affect the schedule
    - Multiple models might have a cumulative effect if tied in logically, but in this case, there is still a paper trail
    - The TIAs can be reviewed at any time once the impact event is actualized
    - The TIAs provide a good as-built record of the changes
    - There is not additive impact induced in the schedule
  - Owners should not object since there is no forced modeling
  - The resource tracking also helps isolate acceleration

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- **Conclusions**
  - Keeps track of potential delay events
  - Submit TIAs as the events are identified so prospective resolution is still possible
  - Takes into account simple delay
  - Takes into account concurrent delay
  - Allows review of acceleration risks
  - Promotes good Construction and Project Management
  - Allows for fair, objective, and thorough resolution of the issues that tend to be very contentious
  - Maintains good as-built data

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Questions?

Recommendations?

War Stories?

Gripes?

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(or What to Do When Your Prospective TIA Expires)

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