From Design Risk to Construction Claim

An Evidence-Based Framework for Risk Traceability, Schedule Forecasting, and Claims Avoidance

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Abstract

Construction claims are commonly treated as contractual or legal events that emerge during project execution. In practice, many of the conditions that ultimately become claims appear much earlier. During design they may exist only as incomplete scope, an unresolved interface, a late owner decision, an uncertain procurement requirement, an unrealistic sequence, or a risk whose possible consequence is understood but not yet measurable. If the condition is not eliminated or controlled, it can move from risk to issue, from issue to measurable schedule or cost impact, and eventually to a change, time-extension request, claim, or dispute.

This paper examines that progression from the perspective of project controls. It develops a risk-to-claim traceability framework and uses the persistent problem of unapproved Time Impact Analyses (TIAs) to test a practical question: how should a project preserve contractual schedule integrity while still maintaining a realistic forecast of emerging impacts? The paper proposes evidence-based dual-view schedule governance consisting of a contractual Schedule of Record and a management-oriented Forecast Impact Schedule, with formal reconciliation between them. The objective is not to create competing schedules. It is to preserve two necessary perspectives until uncertainty is resolved, while maintaining a traceable record of what was known, what happened, what was forecast, and what was ultimately approved.

1. Introduction

1.1 The Industry's Persistent Claims Problem

Construction disputes are expensive, but the larger problem is that by the time a disagreement becomes a formal claim much of the opportunity to avoid the underlying impact has already passed. The project team is then working retrospectively: reconstructing decisions, validating schedules, assembling contemporaneous records, determining responsibility, and arguing about what could reasonably have been known at the time. Those activities are necessary when a dispute exists, but they are a poor substitute for managing the conditions that created the dispute while those conditions were still manageable.

AACE scheduling guidance has long treated the schedule as more than a reporting graphic. A properly developed and maintained CPM schedule is used to communicate the work plan, monitor deviations, evaluate impacts, forecast completion, and preserve an historic record. That combination is important because claims avoidance depends on the same information needed for sound project management: a realistic plan, current status, clear change control, and records capable of explaining how the plan evolved.

1.2 Why Claims Rarely Begin as Claims

A useful way to examine claims is to start earlier than the claim itself. Before there is entitlement to debate, there is usually a condition. Before there is a delay, there may be uncertainty. Before an RFI changes field work, there may be an unresolved design interface. Before a contractor submits a TIA, there may already have been weeks of discussion about a potential change. The terminology changes as the project moves forward, but the underlying condition often remains traceable.

The proposition evaluated in this paper is therefore straightforward: construction claims should be viewed as the final stage of a risk-actualization process rather than as isolated contractual events. That proposition does not mean every risk becomes a claim, or that every claim can be traced to defective design. It means that project teams gain useful management leverage when they deliberately preserve the connection between anticipated uncertainty, actualized issues, measured impacts, response actions, and ultimate commercial disposition.

1.3 The Disconnect Between Design, Risk, Scheduling, and Claims

The difficulty is organizational as much as technical. Risk management may be maintained in a register. Design teams maintain comment logs, decision logs, and deliverable schedules. Schedulers maintain the CPM schedule. Commercial teams maintain change logs. Claims specialists may not become involved until an issue has matured into a dispute. Each system can perform its individual function correctly while the project still loses the thread connecting the original condition to the eventual outcome.

The result is a recurring traceability gap. A risk may be closed because the event occurred, even though its consequence is still developing. A schedule update may show late work without identifying the originating risk. A change log may identify cost exposure without showing the path through the schedule. A TIA may remain unapproved while the physical work continues. By the time the matter becomes retrospective, the project has several records describing different parts of the same story but no disciplined chain of evidence connecting them.

1.4 Objectives of the Paper

This paper has four objectives. First, it examines how design-phase conditions can create downstream construction impacts and how phase-gate project controls can improve early visibility. Second, it develops a practical Risk → Issue → Delay → Response → Root Cause → Recommendation → Optimization traceability framework. Third, it examines the unapproved TIA problem as a specific example of what happens when contractual administration and management forecasting are forced into a single view. Finally, it proposes a dual-view schedule governance model intended to preserve contractual integrity while maintaining a realistic project forecast.

2. Design-Phase Origins of Construction Claims

2.1 Why Look for Construction Claims During Design?

For approximately 15 years, Arcadis has conducted an annual study of construction disputes. One result has always interested me. In 9 of the past 12 years, “errors and omissions in the contract documents” has been identified as the number-one cause of disputes, and it remained among the top three causes in the other years.

Anyone who has worked in construction claims has seen the consequences of incomplete drawings, conflicting requirements, missing scope, late design information, or existing conditions that were not adequately considered. What interests me is where those problems originated. We call them construction disputes because that is generally where the consequences become visible, but an error or omission in the

contract documents did not originate during construction. It was already there when the documents were issued.

That raises a fairly simple question: **If one of the most persistent causes of construction disputes originates in the contract documents, why do we wait until construction to apply so much of our claims-avoidance expertise?**

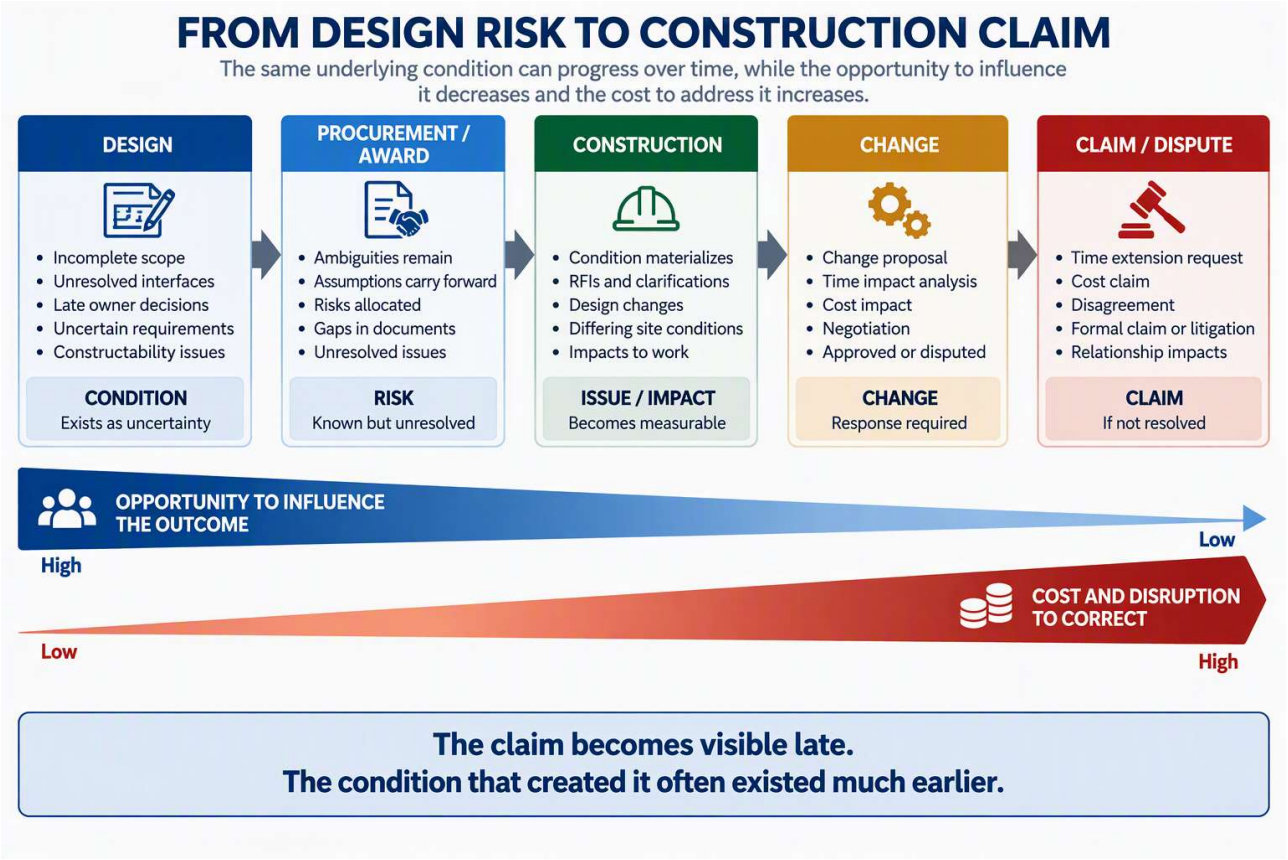


Figure 1 - Claims often originate before construction, when greater opportunities for intervention remain

Much of what we do well in project controls is applied after award. We develop and review detailed schedules, monitor progress, manage risk, evaluate changes, perform TIAs, and forecast cost and completion. When a dispute develops, forensic analysts may eventually work backward through schedule updates, meeting minutes, RFIs, submittals, correspondence, change documents, drawings, and specifications to determine what happened and where the problem began.

I have spent a significant part of my career doing exactly that. What struck me was how often the trail led back to a condition that existed before the resulting construction impact became apparent. That does not mean every claim begins with a design problem. Contractors cause delays, owners change scope, procurement problems occur, differing site conditions are encountered, and unexpected events happen. AACE Recommended Practice No. 45R-08, “Scheduling Claims Protection Methods”, recognizes owner, designer, contractor, differing-site-condition, and force-majeure sources of delay. The question is whether we are taking full advantage of the period when some of these conditions can be identified and addressed with the greatest number of options still available.

Consider an unresolved interface with an existing condition. During design, it may be only a risk. The team may be able to investigate the condition, modify the design, change the construction sequence, revise the

work package, clarify responsibility, or consciously accept and allocate the risk. If the condition survives into construction, the same problem may result in an RFI, redesign, resequencing, lost float, additional resources, a change request, and eventually a request for additional time. The condition may not have changed. **What changed was the project's ability to deal with it efficiently.**

Existing recommended practices support bringing this thinking forward. Recommended Practice No. 30R-03, "Implementing Project Constructability" identifies design errors and ambiguous specifications among the conditions constructability reviews are intended to find and includes fewer change orders and fewer claims among the benefits. Recommended Practice No. 48R-06, "Schedule Constructability Review", specifically addresses completeness of contract documents, consistency between plans and site conditions, detailed schedule and budget review, and identification of project-specific issues and their probable consequences.

I am not suggesting that project controls practitioners should become design engineers. The value is that we look at the developing design differently. The scheduler looks at sequence, interfaces, information requirements, procurement, approvals, and whether design releases support the planned work. The estimator sees scope boundaries, quantities, allowances, and uncertainty. Risk management asks what assumptions remain unresolved and what happens if they are wrong. Constructability tests whether the project can reasonably be built as designed. Claims and forensic experience tends to ask where ambiguity, unrealistic assumptions, inadequate records, or conflicting requirements are likely to create disagreement later.

That is what led me to consider project controls as an integral part of the design phase-gate process rather than something that becomes fully developed after design. As the design matures, the project controls should mature with it. The purpose of the gate should not simply be to confirm that the project has reached another percentage of design. It should test whether scope, cost, schedule, risk, constructability, procurement, and contract requirements have matured sufficiently to justify moving forward.

This will not eliminate claims. No process will. It does, however, create another opportunity to identify and address conditions before they become more expensive construction problems. More importantly for this paper, it creates the opportunity to preserve the progression of those conditions.

A condition identified during design may initially be a **risk**. If it occurs, it becomes an **issue**. If the issue affects planned work, it may create a **forecast impact**. The project responds, and the impact may be mitigated, may develop differently than expected, or may eventually become an **actual delay** and possibly a claim. The question then changes from **"How do we analyze the claim?"** to **"Can we trace the condition that became the claim back to the point where the project first had an opportunity to do something about it?"**

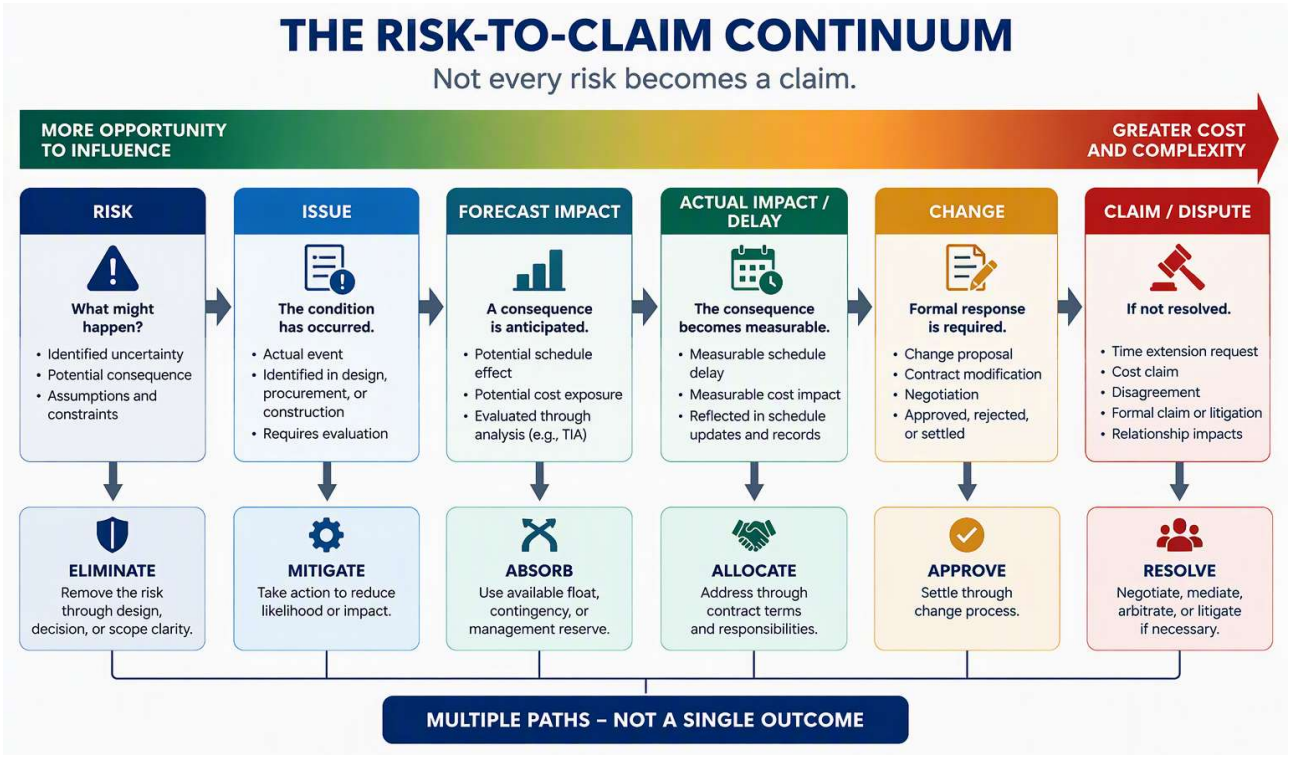


Figure 2 - Unresolved risks can progress from issues to impacts, changes, and claims

That question led to the risk-to-claim traceability framework.

2.2 How Design Risks Become Construction Problems

The conditions that later create construction impacts are not always obvious during design because they do not necessarily look like problems yet. They may simply be assumptions about existing conditions, unresolved interfaces, incomplete scope, preliminary equipment information, anticipated access, expected design release dates, procurement lead times, or a sequence that has not yet been tested against the way the work will actually be constructed. At that point, many of these conditions are properly characterized as risks rather than deficiencies. The problem occurs when the assumption remains unresolved as the design advances and eventually becomes embedded in the contract documents and the execution plan.

This is where project controls can provide a useful perspective during design. The objective is not to predict future claims or create a claims record before construction begins. It is to test the developing project against execution. What information will construction need, and when will it be needed? What must occur before procurement can proceed? Are existing conditions consistent with the design assumptions? Are there unresolved interfaces between design disciplines or work packages? Does the schedule depend on an owner decision, permit, approval, access condition, or design deliverable that is not being managed to the same required date? If an assumption proves wrong, where will the effect appear in the estimate or schedule?

Those questions provide an opportunity to do something with the risk while alternatives are still available. Some risks will be eliminated through additional investigation or design development. Others can be mitigated through changes in design, procurement, packaging, sequencing, or execution planning. Some cannot reasonably be eliminated and should be consciously retained, allocated, and monitored. The important point is that the project understands which condition remains and how that condition could affect execution.

That distinction becomes increasingly important as the design advances. A risk that remains unresolved does not disappear simply because the project passes another design milestone. It may instead become more difficult and expensive to address. Eventually, the project reaches the point where the condition is no longer an uncertainty about what might happen. The condition occurs. At that point, the risk has become an issue, and the project-control question changes from “What could this affect?” to “What has this affected, and what do we do about it?”

That transition from risk to issue is the first step in the risk-to-claim traceability process..

2.3 Common Sources of Future Construction Impacts

- Incomplete or ambiguous scope definition and interfaces.
- Late design information needed for procurement or field execution.
- Long-lead equipment assumptions that are not tested against current vendor information.
- Owner-furnished information, equipment, approvals, access, shutdowns, or decisions not represented in the plan.
- Design sequences that are not aligned with construction sequencing or work packaging.
- Constructability, operability, commissioning, or turnover requirements introduced after the point at which they can be incorporated efficiently.
- Contract provisions and scheduling requirements that are developed separately from the technical execution strategy.

None of these conditions automatically becomes a compensable claim. Some are absorbed by available float. Some are mitigated. Some are allocated by contract to the contractor. Some never occur. The project-control problem is therefore not merely identification. It is maintaining enough traceability to distinguish a potential risk from an actual issue, and an actual issue from a critical delay or compensable change.

2.4 The Role of Integrated Phase-Gate Project Controls

A phase-gate process creates natural points to test whether the project is becoming more executable as design matures. Project controls should mature at the same time. Early gates may contain milestone schedules, conceptual estimates, systemic risks, and preliminary contracting assumptions. Later gates should progressively establish the integrated WBS, design and procurement logic, quantitative cost and schedule risk, baseline requirements, change procedures, contemporaneous-record expectations, and claims-avoidance controls. The important feature is not the name or number of gates. It is that advancement requires explicit consideration of scope, cost, schedule, risk, interfaces, and commercial readiness rather than treating those subjects as downstream construction-management activities.

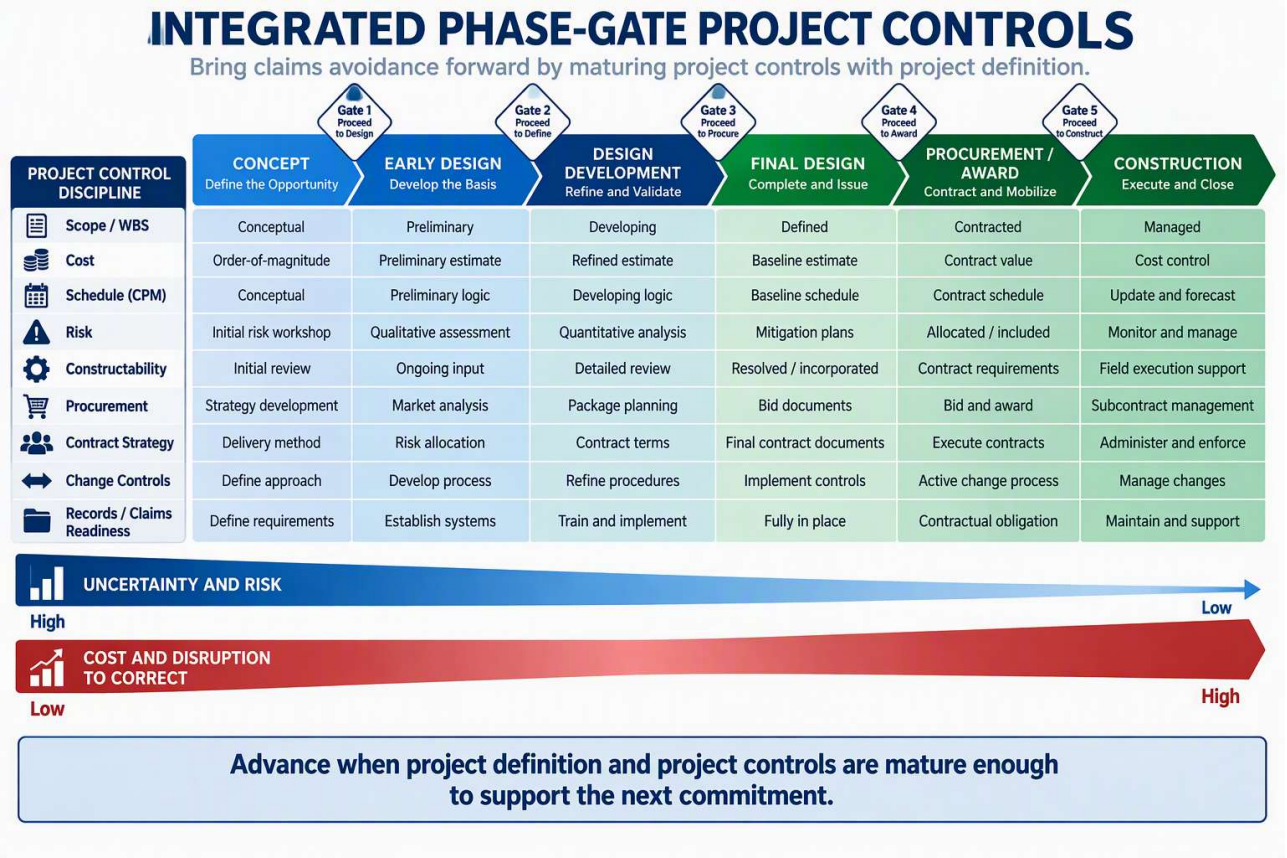


Figure 3 - Integrated project controls move claims avoidance upstream into design

2.5 Early Intervention and Risk Mitigation Opportunities

Early intervention has disproportionate value because options narrow as commitments are made. A constructability concern found while the design is flexible may be resolved by changing configuration, packaging, sequence, or procurement strategy. The same concern found after award may require an RFI, redesign, reprocurement, resequencing, or acceleration. The technical issue may be identical, but its project consequence is not.

For practitioners, the lesson is not that design must be complete before construction planning begins. The lesson is the opposite. Construction planning, scheduling, risk management, estimating, procurement planning, and change thinking should be used during design to test the developing project. AACE constructability guidance specifically supports reviews during planning and early design, and schedule-constructability guidance emphasizes realistic work sequence, engineering interfaces, procurement lead times, and project restrictions. These are precisely the subjects that later dominate delay discussions when they are not resolved early.

3. The Risk-to-Claim Traceability Framework

3.1 Risks and Uncertainty

A risk is still a possibility. It belongs in a risk register because the event or condition has not fully materialized. The useful project-control record identifies the condition, its potential cost and schedule consequence, the responsible owner, the proposed response, trigger conditions, and the evidence needed to determine whether the risk has occurred. Where the risk can affect the schedule, the affected

milestones, activities, or work packages should be identifiable even when the risk is not directly modeled as deterministic delay.

3.2 Risk Actualization and Issue Development

Once the condition occurs, the management question changes. Probability is no longer the principal question; consequence is. The item should not simply disappear from the risk register. It should transition to an issue record that preserves the originating risk identifier, what actually happened, the date or status period in which it became known, the potentially affected scope, and the first response. This transition is the first critical handoff in the framework.

3.3 Impact Measurement and Delay Identification

An issue does not become project delay merely because work was inconvenienced. Schedule impact must be measured in the context of the CPM plan and the conditions existing when the event occurred. For prospective events, a TIA can model the likely effect on the current forecast. Once the consequence has been absorbed and actual data exist, retrospective analysis becomes more appropriate. The distinction matters because forecast impact, actual delay, excusability, compensability, and root cause are related questions but they are not the same question.

3.4 Mitigation and Response Actions

Project teams respond to impacts continuously. They resequence work, change procurement strategies, add resources, change logic to reflect an executable plan, obtain partial releases, or negotiate interim direction. Those actions can reduce the eventual delay, but they can also make later analysis more difficult if they are not documented. A useful traceability system records the response as carefully as the impact: what action was taken, why it was taken, which party directed or initiated it, what assumptions supported it, and what forecast effect was expected.

3.5 Root Cause Analysis

Root cause is deliberately placed after response and impact measurement. In practice, the first explanation offered for an issue is often not the complete explanation. A late activity may be the immediate cause of delay without being the underlying cause. The underlying cause may be late design information, an unrealistic baseline assumption, an approval interface, procurement performance, contractor production, or some combination. Root-cause analysis should therefore use schedule evidence together with contemporaneous records rather than treating the schedule itself as proof of responsibility.

3.6 Recommendations and Continuous Improvement

The framework ends with recommendation and optimization because traceability should improve the next decision, not merely explain the last one. The final step asks what should change in design criteria, specifications, schedule requirements, risk identification, review cycles, recordkeeping, contractual language, or project controls procedures so the same failure mode is less likely to recur.

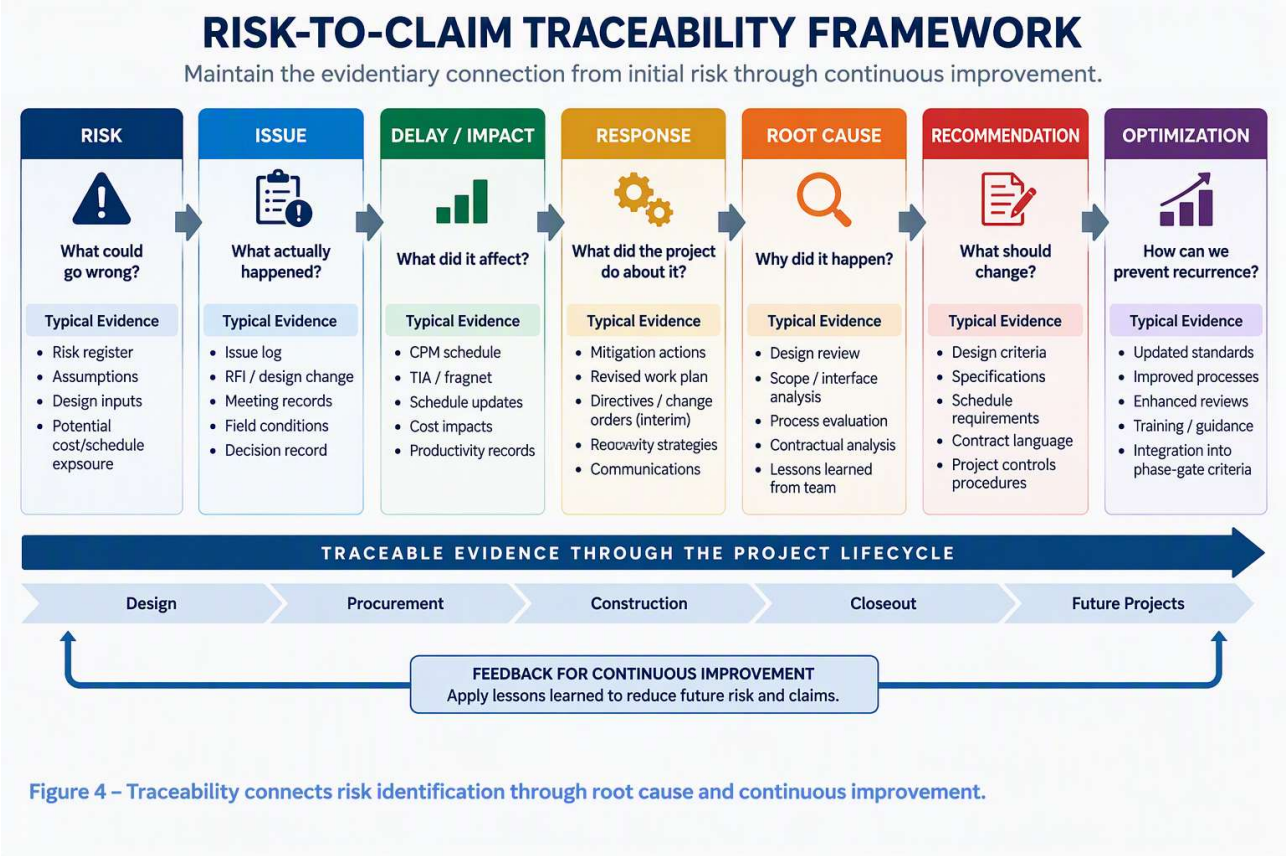


Figure 4 - Traceability connects risk identification through root cause and continuous improvement

4. The Missing Link Between Risk Management and Claims Management

4.1 Traditional Organizational Silos

The central weakness is not absence of process. Most projects already have risk management, scheduling, design management, change control, and contract administration. The weakness is that these processes can operate with different identifiers, ownership structures, update cycles, and definitions of closure. A risk can be considered closed when it occurs, while the scheduler and change manager are only beginning to measure its consequence.

4.2 Breakdown of Information Traceability

Traceability fails when the project cannot move cleanly from the original risk or assumption to the issue that materialized, the activities affected, the response taken, the contractual disposition, and the ultimate outcome. The practical control is a common identifier or cross-reference structure spanning the risk register, issue/change log, schedule activities or fragnets, decision records, and commercial records.

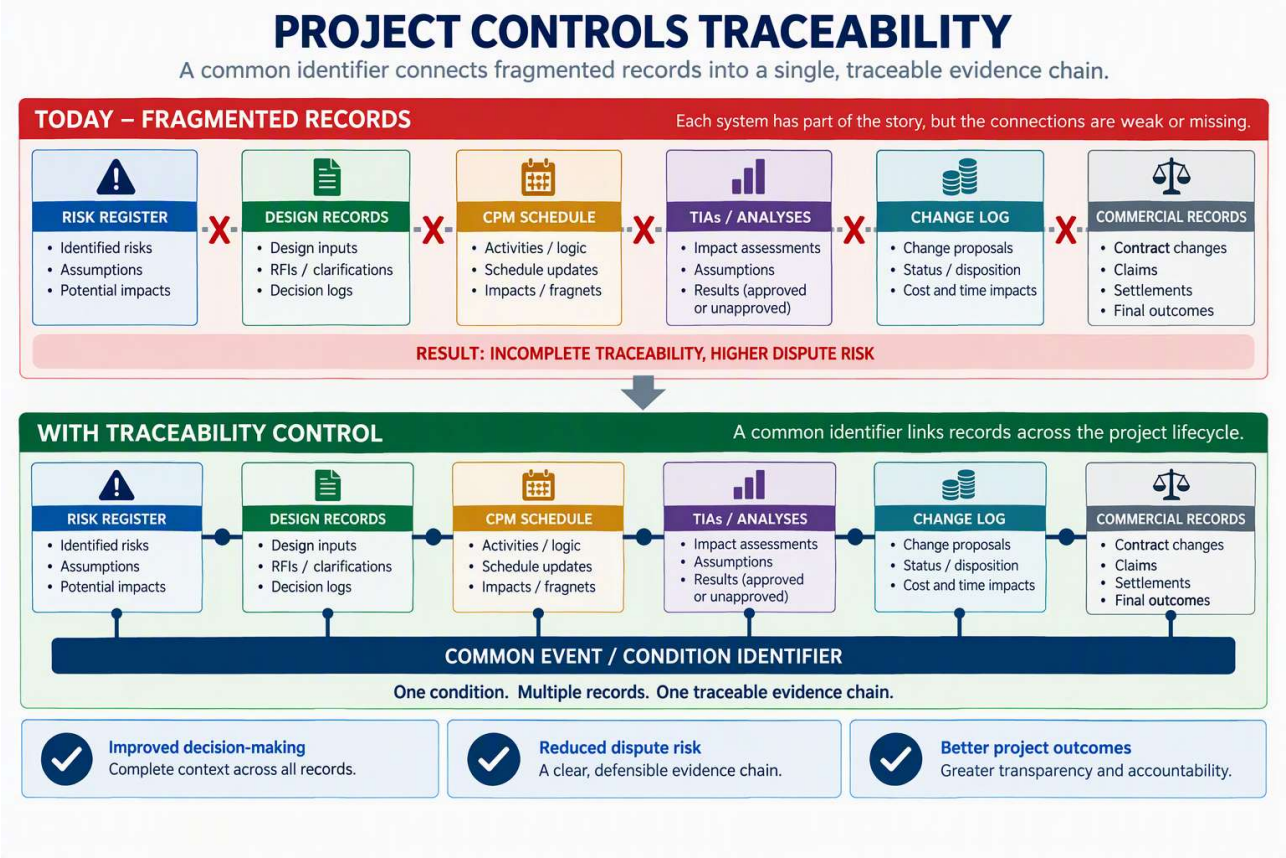


Figure 5 - Common identifiers create traceability across fragmented project records

4.3 Consequences of Fragmented Processes

Fragmentation affects both management and claims posture. Management forecasts become less reliable because emerging impacts may be excluded pending approval. Contract administration becomes less reliable because the historical schedule can be altered by unapproved forecasts. Later forensic analysis becomes more expensive because the analyst must reconstruct relationships the project could have preserved contemporaneously.

4.4 Establishing an Evidence-Based Framework

An evidence-based framework does not require one software platform. It requires controlled handoffs and consistent reconciliation. The project should be able to answer, for every material event: where it originated, when it actualized, where it appears in the schedule, what response was taken, what was approved, what remains unresolved, and what the present forecast shows.

5. The Unapproved TIA Problem

5.1 Emerging Impacts and Forecasting Challenges

The unapproved TIA problem exposes the conflict between accurate forecasting and contractual schedule control. A prospective TIA is intended to evaluate the likely effect of an event while the project is ongoing. Yet review and negotiation can extend beyond the period in which the affected work is actually performed. The project then has an impact that management must forecast even though contractual entitlement and the authorized schedule change remain unresolved.

5.2 The Contractual Schedule Perspective

From a contractual perspective, inserting an unapproved delay into the formal schedule can be interpreted as granting time or changing the accepted plan before the contractual process is complete. A disciplined Schedule of Record therefore recognizes actual progress and approved changes while preserving the contractual completion basis until a change is accepted.

5.3 The Forecast Schedule Perspective

From a management perspective, ignoring a known, modeled impact until approval can make the forward forecast optimistic. Management decisions about mitigation, procurement, resources, interfaces, and completion then rely on a schedule that may not represent the most likely future condition.

5.3.1 Forensic Test of Contemporaneous Forecasting

One experience illustrates the difficulty particularly well. I served as the scheduling expert for a contractor on a project experiencing substantial delays associated with redesign that became necessary when existing conditions were encountered that had not been adequately addressed by the design. During execution, the contractor incorporated prospective TIAs into a series of schedule updates in an attempt to forecast the effect of those emerging impacts on project completion.

In the subsequent claim, the owner's scheduling expert rejected approximately seven months of those contemporaneous schedule updates. The expert removed the inserted TIA activities as part of schedule source validation and relied instead on schedules that effectively reflected progress without the prospective impact modeling. I took the opposite position. My concern was that removing the TIAs did not merely validate the source data; it changed the contemporaneous project model. The relevant question was therefore not simply whether the inserted activities represented work that had already occurred. The question was whether the schedules containing those activities reasonably represented what the project participants understood about the anticipated effect of the redesign at the time decisions were being made.

The contemporaneous record became important. Weekly project meeting minutes repeatedly discussed the redesign and associated delay conditions. Those records independently established that the impacts represented in the schedule were not concepts created later for purposes of the claim. The project team was discussing the same conditions contemporaneously, and the schedules incorporating the TIAs represented the project team's understanding of how those conditions were expected to affect the critical path. Management decisions during that period were therefore being made using a schedule that included the anticipated effects of known events. Removing the TIA activities retrospectively produced a different schedule, but not necessarily a more accurate representation of the project team's contemporaneous understanding.

I performed an additional test by comparing cumulative delay calculated from the complete contemporaneous updates against cumulative delay derived from a half-step analysis that removed the prospective TIA effects and allowed delay to become visible principally through subsequent progress. The comparison was instructive. The schedule updates containing the prospective TIAs forecast substantial delay relatively early. The progress-based analysis recognized much of the same delay later, as the forecast impacts progressively became actual conditions. Despite the substantially different timing of delay recognition, the two cumulative-delay curves eventually converged on essentially the same overall delay.

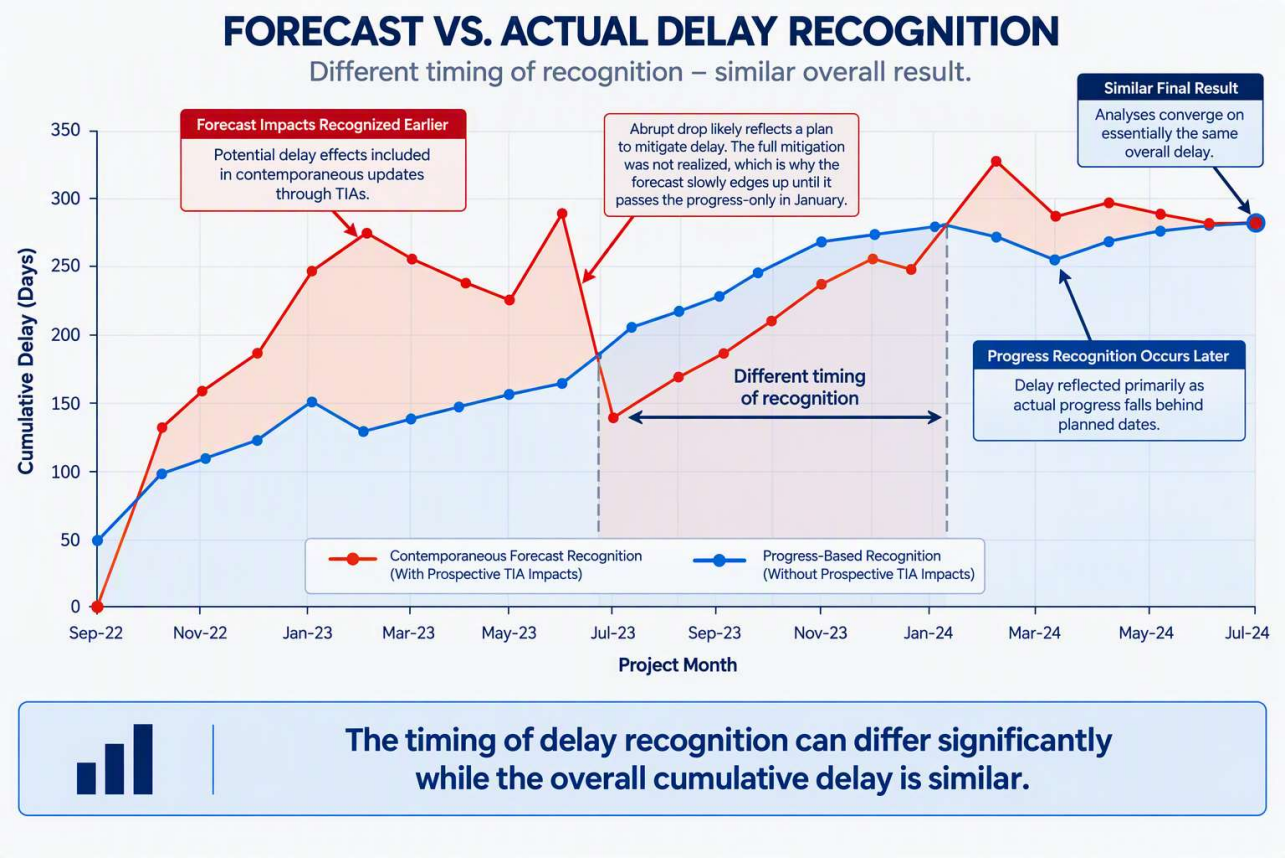


Figure 6 - Forecast and progress-based analyses recognize delay at different times

The result does not establish that every prospective TIA prediction was precisely correct. The curves differ significantly during portions of the project, and individual forecasts changed as the project evolved. That is exactly what a forecast should be expected to do as additional information becomes available. More importantly, however, the later progress-based analysis ultimately arrived at approximately the same cumulative delay that the contemporaneous update process had been forecasting. In combination with the weekly meeting records documenting the underlying redesign impacts, that convergence provided an independent means of evaluating whether the inserted TIA activities were reasonable contemporaneous forecast information rather than later claim-driven schedule manipulation.

The experience changed the way I think about schedule source validation. Validation should certainly test schedule reliability, but validation should not unintentionally remove information merely because that information was prospective when it was entered. A contemporaneous schedule serves not only as a record of what has happened but also as a management model of what the project team believes is likely to happen. When a project team identifies an emerging impact, discusses that impact in contemporaneous records, incorporates the expected effect into its schedule, and then makes project decisions using that schedule, the prospective information may itself become important evidence of the contemporaneous project plan.

That does not mean an analyst should automatically accept every inserted TIA. The event, fragnet, logic, duration, status, and predicted critical-path effect still require validation. Another contemporaneous record should preferably corroborate that the modeled event was known and understood at the time. The later project record can then provide an additional test: did the predicted impact actually materialize, was it mitigated, did the critical path change, or did subsequent events alter the forecast? The objective is not to preserve a forecast because it was contemporaneous. The objective is to preserve and test it because it may explain what the project reasonably understood at the time and why the participants acted as they did.

5.4 Why Individual TIAs Are Often Not Additive

Multiple impact events interact through shared float, changing critical paths, mitigation, resequencing, and common resources. The sum of isolated TIA results therefore should not automatically be treated as the forecast project delay. The project needs an integrated forecast model in which the current effects of unresolved events are evaluated together.

5.5 Risks Associated with Both Approaches

A contract-only update can understate emerging exposure; a forecast-only update can compromise traceability between authorized time and management expectation. The failure mode is created when one schedule is expected to satisfy both purposes without distinguishing status, approval, and forecast assumptions.

6. Evidence-Based Dual-View Schedule Governance

6.1 Schedule of Record

The Schedule of Record is the contractual view. It contains current status, the accepted plan, approved changes, and the contractual completion framework. Its purpose is administration, entitlement, and an auditable record of what has been formally incorporated.

6.2 Forecast Impact Schedule

The Forecast Impact Schedule is a controlled management view. It begins with the same status and base logic but adds unresolved impact fragnets and other management assumptions needed to produce the most realistic forecast. It is not a second baseline and should not be represented as an approved contractual schedule.

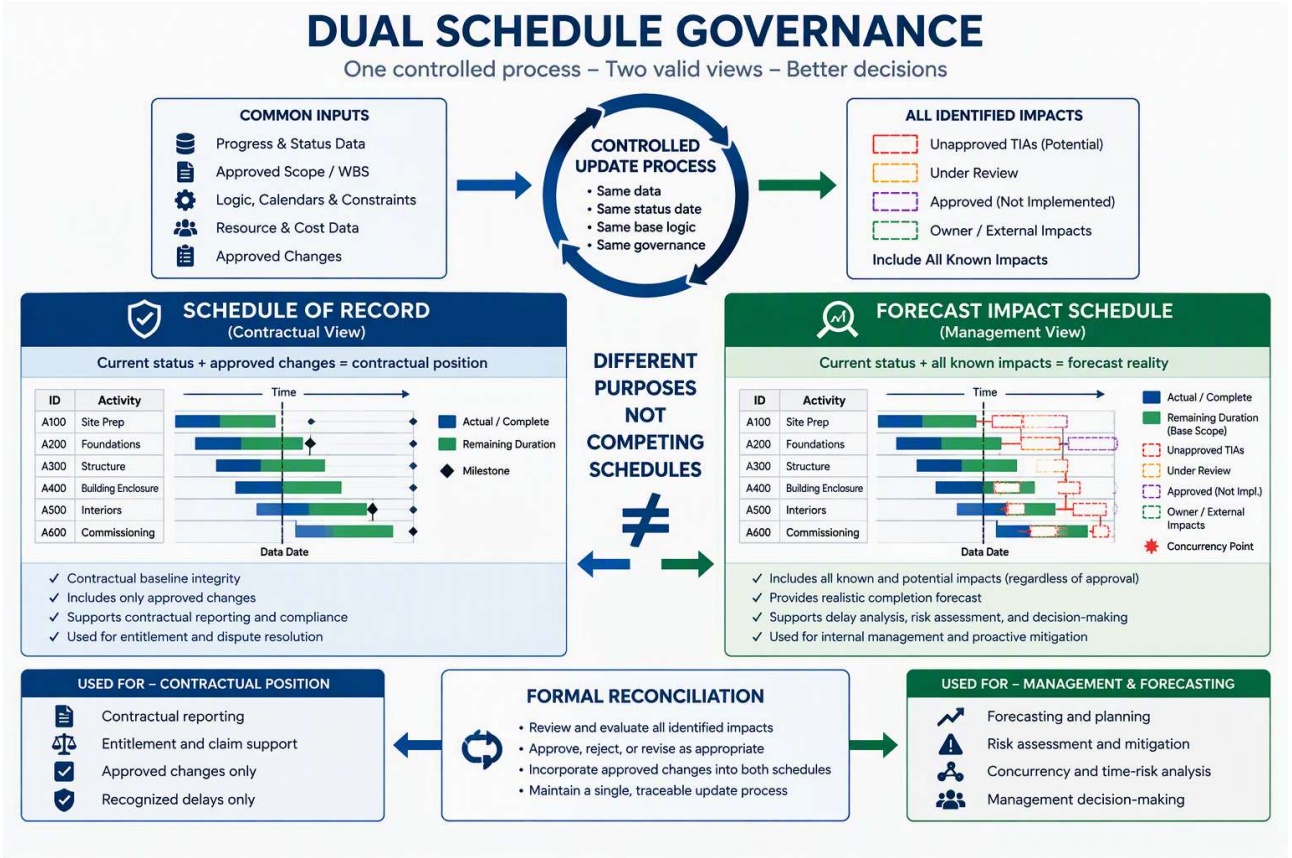


Figure 7 - Dual schedule views preserve contractual integrity while revealing forecast impacts

6.3 Reconciliation Between Both Views

The two views must be reconciled every update. Differences should be limited to identifiable unresolved events or forecast assumptions, not independent statusing, hidden logic changes, or inconsistent actual dates. When an impact is approved, rejected, superseded, or absorbed, the disposition is recorded and both views are reconciled accordingly.

6.4 Advantages of Dual-View Governance

The dual-view approach preserves contractual discipline without requiring project management to ignore credible emerging impacts. Its principal benefit is transparency: decision-makers can see both the authorized contractual position and the current management forecast, together with the specific unresolved events explaining the difference. Its principal risk is misuse. Without configuration control and reconciliation, dual schedules can diverge and undermine credibility. For that reason, the method should be treated as governed views of one controlled scheduling process, not as competing project schedules.

7. Practical Implementation

7.1 Integrating Design, Risk, Schedule, and Change Management

Implementation begins by agreeing on identifiers and handoffs. Material design risks should carry identifiers that survive transition into the issue and change processes. Schedule coding should permit affected activities and impact fragnets to be associated with those identifiers. The change record should reference both the originating condition and the schedule analysis.

7.2 Required Evidence Sources

The evidentiary record typically includes risk registers, design deliverable schedules, decision logs, assumptions, RFIs, submittals, procurement records, change logs, CPM schedules, TIAs, narratives, daily reports, meeting minutes, correspondence, and progress records. The objective is not to collect everything indiscriminately. It is to preserve the records needed to validate status, explain causation, and trace decisions.

7.3 Recommended Risk-to-Claim Workflow

A practical workflow is: identify and code the risk; define potential cost and schedule exposure; monitor trigger conditions; transition an actualized condition to an issue; identify affected schedule scope; measure prospective or actual impact using a method appropriate to timing and data; record mitigation and response; reconcile contractual and forecast schedule views; determine commercial disposition; perform root-cause analysis; and feed the lesson back into phase-gate criteria and future project controls.



Figure 8 - Risk-to-claim management creates a continuous feedback loop for improvement

7.4 Organizational Roles and Responsibilities

Responsibility should follow the decision rather than the software. Design management owns technical resolution, risk management owns risk characterization and response tracking, project controls owns integrated cost/schedule measurement and forecasting, project management owns execution decisions, and contract/commercial management owns contractual disposition. The control point is the interface among these roles.

8. Conclusions

8.1 Every Claim Has a Risk Origin

Every claim represents an event or condition that created potential exposure before it became a formal claim. Treating that origin explicitly as part of the project-controls record creates the opportunity for earlier action and better later explanation.

8.2 Many Claims Have Design-Phase Contributors

Design-phase contributors include incomplete scope, unresolved interfaces, unrealistic assumptions, procurement constraints, late decisions, and requirements that are not aligned with execution. These conditions do not predetermine entitlement, but they are often the earliest point at which the project can act.

8.3 Phase-Gate Integration Creates Earlier Visibility

Phase gates are effective when they force progressively better alignment among design maturity, cost, schedule, risk, procurement, constructability, contracting, and readiness. The value is not the gate

meeting itself; it is the disciplined test of whether unresolved uncertainty is being carried forward knowingly.

8.4 Dual-View Scheduling Improves Forecasting While Preserving Contractual Integrity

When unresolved impact events create a material difference between contractual status and likely completion, controlled dual views can preserve both necessary perspectives. The Schedule of Record remains the contract administration tool. The Forecast Impact Schedule supports management decisions. Formal reconciliation prevents the two views from becoming independent schedules.

8.5 Evidence Traceability Improves Decision-Making and Reduces Claims

Traceability makes uncertainty visible. It allows the project to see how a risk became an issue, how the issue affected the plan, how the team responded, and what was ultimately approved. That record improves contemporaneous decision-making and reduces the reconstruction required if a dispute develops.

8.6 Recommended Industry Practices

The recommended practice emerging from this investigation is simple in concept but demanding in execution: integrate project controls during design; preserve identifiers as risks become issues and changes; distinguish prospective forecasts from retrospective findings; maintain contractual and forecast schedule purposes explicitly; reconcile unresolved impacts every update; and close the loop through root-cause analysis and lessons learned. Claims avoidance is not a single process performed at the end of the project. It is the cumulative result of disciplined decisions and evidence maintained from design through completion.

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References and Technical Basis

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Author Development Notes

This is a substantive first paper draft built from the agreed webinar outline and supporting project-controls sources. Before publication, add one or two concise project war stories where they best test the framework, verify the conference-specific citation format and word limit, and complete a source-level citation pass against the final published editions of the applicable Recommended Practices.