Typical Cause-Effect Matrix for a Delay/Disruption Construction Claim

Primary Causes

Typical Owner/Engineering Problems

	Requests for Scope Changes	Requests for Information	Delay & Disruption
Late IFC Drawings			●
Design Basis/Drawing Errors & Omissions		●	
Defective Specifications		●	
Understated/Overstated Quantities	●		
Design Changes	●	●	
Late Responses to RFIs		●	●
Late Responses to Change Order Requests	●		●
Scope Changes	●	●	●

Secondary Causes

Typical Owner-Caused Administrative Problems

	Delay & Disruption
Late Precedence Work by Others	●
Work Access Constraints	●
Delayed Review and Approval of Contractor's Submittals	●

Typical Owner-Caused Procurement Problems

	Delay & Disruption
Improperly Tagged Equipment & Materials	●
Late Owner-Furnished Equipment & Materials	●
Misfabricated Owner-Furnished Equipment & Materials	●

Typical Problems Beyond the Control of All Parties

	Delay & Disruption
Weather Impacts	●
Labor Strikes	●
Other Force Majeure Issues	●

Typical Contractor-Caused Problems

	Delay & Disruption	Rework
Lack of Qualified Construction Labor	●	
Lack of Supervision	●	
Defective Construction	●	●
Vendor/Supplier Delivery Delays	●	
Poor Planning and Scheduling Practices	●	

Intermediate Effects and Secondary Causes

	Acceleration
Owner Approves Time Extension for Excusable and Compensable Delays	
No Time Extension Approved by Owner	●

Productivity Loss

	Night Work Labor Rate Increase for Premium Time	Labor Rate Increase for Shift Differential	Increased Coordination	Dilution of Supervision/Coordination Problems	Increased Supervision	Congestion
Resequencing & Out-of-Sequence Work			●		●	●
Increased Number/Size of Crews			●	●	●	●
Trade Stacking					●	●
Overtime Work	●					
Shift Work		●				

Productivity Loss

	Night Work Labor Rate Increase for Premium Time	Labor Rate Increase for Shift Differential	Increased Coordination	Dilution of Supervision/Coordination Problems	Increased Supervision	Congestion
Direct Man-Hour Growth	●	●		●		●
Indirect Man-Hour Growth			●		●	
Increased Equipment & Materials Quantities						

Ultimate Effects

	Increased Field Indirect Costs	Increased Home Office Overhead Costs	Increased Direct Labor Costs	Increased Equipment & Material Costs
Direct Man-Hour Growth			●	
Indirect Man-Hour Growth	●	●		
Increased Equipment & Materials Quantities				●

Allocation of Responsibility for Total Cost Overrun

Owner	●	●	●	●	$22,600,000
EPC Contractor	●	●	●	●	$14,400,000

Total Cost Overrun $37,000,000

LONG INTERNATIONAL