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What To Do When Your Switchgear Is Lost in the Mail

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Session Title: What To Do When Your Switchgear Is Lost in the Mail – a Panel Discussion on Supply Chain Risk Management

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Final Manuscript

I. Introduction

The construction industry depends on the global supply chain to provide equipment and materials for timely completion of projects. The COVID-19 pandemic greatly disrupted this supply chain by causing shutdowns, fabrication disruptions, and delivery backlogs. These supply chain issues have led to project delays and increased material costs. Supply chain disruptions are likely to continue for the foreseeable future. This panel of engineers, insurance experts, a contractor, and an attorney will discuss strategies to mitigate supply chain issues to keep projects on time and on budget. The panel will also discuss contract clauses to mitigate supply chain risk, including material escalation, force majeure, substitution of materials, notice, and termination.

II. Background Facts of Supply Chain Volatility

It is a well-known fact that the supply chain is volatile right now and has been since the COVID-19 global pandemic. This volatility has directly resulted in two challenging issues: (1) getting materials on a timely basis; and (2) pricing of materials. Due to these two challenges, and numerous other related economic forces, a ripple-effect of difficulties face the construction industry (and the global economy):

- Construction firms were burdened with a 21% rise in material and labor prices between March 2021 and March 2022.¹
- From a construction industry survey, 89% of respondents experienced project delays, with the major source of said delays being materials shortages.²
- For example, switchgear fabrication times were 4 to 6 months prior to the pandemic. Now fabrication times for switchgears can be up to 14 to 18 months.³
- NAHB reported that lumber prices added \$36,000 to the average new single family home price in 2020-2021.⁴

Supply chain difficulties arise from time-to-time in any industry. Historically, however, when supply chain difficulties arose, it usually only affected a specific component or material, and the rest of the economy remained stable. One of the notoriously challenging aspects of the current supply chain problem is the pervasiveness of the problem. It is more than a singular isolated

¹ David Madison and Sabine Hoover, How can contractors remain competitive as production costs rise?, Building Amid Uncertainty: How Risk Management Became Everyone's Job (FMI and AGC) (statistic according to analysis from the AGC).

² *Id.*

³ The Douglas Company website: <https://www.douglascompany.com/switchgear-demand-craziness/>; also in accord with author discussions with contractors and subcontractors.

⁴ <https://www.nahb.org/news-and-economics/industry-news/press-releases/2021/04/skyrocketing-lumber-prices-add-nearly-36000-to-new-home-prices>.

piece of equipment; the disruption impacts nearly all segments and trades in the construction industry.⁵

When the supply chain first became volatile in 2020, some might have discounted the situation, or felt that it would subside quickly. Some of the price volatility at that time might have been “bottleneck inflation,” caused by mismatches in supply and demand. This occurs when the supply or production of a specific item drops, yet the demand remains the same or increases, thus creating a “bottleneck” of consumers attempting to purchase the product, resulting in increased prices.⁶

The bottleneck explanation was a favored theory for the drastic increase in lumber prices, which at times more than tripled in price from standard industry averages at certain points of the pandemic.⁷ With bottleneck inflation, a volatile cycle tends to occur. First, prices rise quickly because of the bottleneck. Second, because of the high prices, demand drops, and due to the drop in demand the bottleneck is relieved, and prices may crash. But the price crash is temporary, because third, due to the price drop, pent up demand floods back in, causing prices to quickly rise. With the increased demand, once again, the bottleneck occurs, and this cycle of volatile price increase and crash can repeat multiple times, typically with each wave being slightly less volatile, until the cycle smooths out. This appears to have been the situation with lumber during the pandemic.⁸

Shocks to the system have been more than bottlenecks, unfortunately. Government orders hindered or shut down segments of the economy causing reduced supply capacity, or other atypical events, such as the Texas energy crisis, significantly crippled manufacturing and supply chains.⁹ Most recently, other events such as wildfires, hurricanes, and the Russian invasion of Ukraine have caused problems within the supply chain. Now, inflation also is a major problem. The PPI for nonresidential construction inputs rose 11.2% in 12 months.¹⁰ That number represents a high increase, already on top of (and overlapping to some extent with) the preceding year-over-year increase at or above 20% from May 2021 to April 2022.¹¹

It may also be that the global economy has become so sophisticated, lean, and efficient, that significant supply chain disruptions of this nature will become more common. The modern economy runs on leaner efficiency models, using “just in time” manufacturing to reduce stockpiles and costs. This is great when everything works precisely as anticipated, because there is no excessive production or storage. If problems arise, however, there are limited backfill or

⁵ See also AGC Construction Inflation Alert (Dec. 2022) (from October 2021 to October 2022 all types of subcontractors—roofing, electrical, plumbing, and concrete—experienced PPI increases ranging from 10.9% to 21.5%).

⁶ The Economist, America’s economy suffers bottlenecks and shortages (May 11, 2021), available at <https://www.economist.com/finance-and-economics/2021/05/11/americas-economy-suffers-bottlenecks-and-shortages>

⁷ <https://fred.stlouisfed.org/series/WPU0811>; <https://www.nasdaq.com/market-activity/commodities/lbs>

⁸ <https://www.nasdaq.com/market-activity/commodities/lbs>

⁹ The Wall Street Journal, Texas Freeze Triggers Global Plastics shortage (March 17, 2021) available at <https://www.wsj.com/articles/one-week-texas-freeze-seen-triggering-months-long-plastics-shortage-11615973401>

¹⁰ AGC Construction Inflation Alert (Dec. 2022).

¹¹ *Id.*

alternative options to solve the problem, because many individualized, granular components of the supply chain are specialized and sophisticated. And with lean, limited stockpiles, a breakdown in the chain may not be so easily fixed.¹²

In other words, disruptive forces on the supply chain could be more frequent, and impactful, in this new modern economy.

III. Legal Issues and Doctrines for Consideration in Supply Chain Volatility

The volatility and unpredictability in the supply chain leads to key questions: Who bears this risk, and what legal approaches should be considered?

Old Common Law Approach to Construction Projects: Nearly all construction projects are governed by contracts, which allow parties to freely negotiate rights, obligations, and risks. Because contracts exist on essentially all projects, rarely does the common law govern. Nevertheless, as an initial starting point, the old common law rule is that the contractor carries the risk of economic volatility. This is because a contractor's promise to construct the project includes the business risk of supply chain difficulties, price fluctuations, and various other project risks, unless the contract says something to the contrary.¹³

A limited potential exception under the old common law is if the event causing disruption or non-performance was a significant and unforeseeable event, such as a natural disaster, which could cause a sudden and severe shortage of a material or supply. These types of events are very fact specific and were historically called "Acts of God."¹⁴

Modern law has (slightly) tempered these older holdings. Hardships that unforeseeably and significantly hinder performance may fall under the doctrine of commercial impracticability,

¹² Lazaro Gamio and Peter Goodman, How the Supply Chain Crisis Unfolded, The New York Times (Dec. 5, 2021), available at <https://www.nytimes.com/interactive/2021/12/05/business/economy/supply-chain.html>; Willy Shih, Is it Time to Rethink Globalized Supply Chains?, MIT Sloan Management Review, (March 19, 2020).

¹³ *Lakeshore Engineering Services, Inc. v. U.S.*, 110 Fed.Cl. 230, 240 (Fed. Cl. 2013); *Appeal of Southern Dredging Co., Inc.*, 92-2 BCA P 24886 (Eng. B.C.A. 1992); see also *O'Neill Const. Co. v. city of Philadelphia*, 6 A.2d 525, 526-27 (Pa. 1939); *Mar-Paul co. v. Jim Thorpe Area School Dist.*, 7 Pa. D.&C.5th 387, 396 (C.P. Carbon Co., 2008); *Hudson v. D&V Mason Contractors, Inc.*, 252 A.2d 166, 169 (Sup. Ct. De. 1969) (substantially increased costs to complete work, though a hardship, do not excuse non-performance); *Hall v. Gargaro*, 17 N.W.2d 795, 797 (Mi. 1945); *DeSombre v. Bickel*, 118 N.W.2d 868, 872 (Wi. 1963); *P&Z Pacific, Inc. v. Panorama Apartments, Inc.*, 372 F.2d 759, 761-62 (9th Cir. 1967) (at common law subsurface rock is risk that contractor accepts in its line of work); *Day v. U.S.*, 245 U.S. 159 (1917) (contractor assumes risk of elements and contract expressly provided only for an extension of time, but not additional compensation for damage from elements); *Valley Const. Co. v. Lake Hills Sewer Dist.*, 410 P.2d 796, 800-01 (Wa. 1965) (subsurface conditions are risk of contractor unless contract qualifies with contingency clauses); *Associated Engineers & Contractors, Inc. v. State*, 568 P.2d 512 (Hi. 1977) (risk of adverse weather is borne by contractor unless qualification in contract says otherwise); *Gross v. Exeter Mach. Works*, 121 A. 195, 197 (Pa.1923) (mere hardship in acquiring materials due to increased demand is insufficient excuse for non-performance); *Dermott v. Jones*, 69 U.S. 1 (1864) (if contractor desired to have protection from latent defects in the soil, it should have contracted accordingly).

¹⁴ *Dermott*, 69 U.S. at 5 ("It is a well-settled rule of law, that if a party by his contract charge himself with an obligation possible to be performed, he must make it good, unless its performance is rendered impossible by the act of God, the law, or the other party. Unforeseen difficulties, however great, will not excuse him.").

discussed in more detail below. More importantly, modern construction contracts often include clauses that directly address these issues.

To determine rights and obligation on construction projects, the most consistent approach is to analyze the fact-specific events through the lens of primarily (a) the contract itself and any clauses that allocate risk of such type; and, secondarily, if no contract clause on point, (b) the common law doctrines of impossibility, impracticability, frustration of purpose, and mistake.¹⁵ Careful counsel should also analyze whether the specific event, contract, and jurisdiction allow for either additional time, compensation, both, or some other rare relief akin to a rescission or cardinal change depending on the specific factual circumstances.

Contract Clause of Potential Applicability – Supply Chain Disruption and Material/Price Escalators: A contract could expressly address supply chain disruption such as delayed deliveries or price fluctuations. Negotiation of the clauses tends to occur on private commercial jobs, and Section V, below, addresses various approaches.

Public projects, on the other hand, are usually non-negotiable. But contracting officers may elect to include certain price and supply chain clauses in the contract documents. Federal projects may provide an Economic Price Adjustment clause (FAR 16.203-4 and 52.216-4). Under the clause, price fluctuations can be passed through to the government with increased unit prices. Generally, the clause is only used on large projects that last for an extended period of time. If the clause is in the contract, the contractor must notify the government contracting officer within 60 days of the price change. The unit price must change by at least 3 percent for the clause to be applicable, and the contract can limit the aggregate increases to 10 percent. Further, the contract must specifically list the applicable material in a schedule with an identified baseline unit price.

Similarly, some state contracts, for example, state highway, roadwork, and bridgework contracts often include price escalator clauses for materials, particularly indexed materials such as steel, asphalt, and fuel.¹⁶

Contract Clause of Potential Applicability – Force Majeure Clauses: Force majeure clauses are express contract clauses that address risks outside the parties’ control often referred to as “Acts of God.”¹⁷ Under the common law, Acts of God typically mean natural disasters, not economic hardships. A contract clause defining force majeure, however, need not be limited to

¹⁵ For example, the Restatements Second of Contracts do not address “force majeure” or “Acts of God,” but, instead, in section 261 analyze these types of events under the doctrine of impracticability. *See also Morin Bldg. Products Co., Inc. v. Volk Const., Inc.*, 500F.Supp.82, 89 (D. Mt. 1980) (citing *Eastern Air Lines, Inc. v. McDonnell Douglas Corp.*, 532 F.2d 957, 991 (5th Cir. 1976) (“the standard for excusable delay and default is commercial impracticability.”)).

¹⁶ *See, e.g.*, PennDOT Publication #408, section 110.04; 67 Pa.Code § 449.6; Virginia Department of Transportation Steel Escalation Price Adjustments Industry Meeting Minutes (September 21, 2022). Other state roadwork that tends to have price escalator clauses for such materials include Arizona, Nevada, Ohio, and West Virginia, at a minimum. An exhaustive search was not conducted, and prudent contractors will confirm the availability of such clauses.

¹⁷ This is not to be confused with tort (property or personal injury) damages caused by an earthquake, tornado, hurricane, or flood, in which event property or personal injury losses can sometimes assert an “Act of God” as a complete defense, also known as *vis major*.

natural events, because the parties can define risks as they so please.¹⁸ A contract may identify a variety of man-made events, too (e.g. riots or unusually slow supply chains). Most construction contracts identify a combination of specific man-made and natural events for which relief is afforded. Generally, depending on the jurisdiction, the one seeking relief under the force majeure clause must also show no fault of its own, that the event impacted the ability to perform, and unforeseeability.

In construction contracts with force majeure clauses, supply chain issues are typically addressed as a force majeure-like event. For example, the AIA A201-2017 General Conditions section 8 affords an extension of time for various Acts of God—labor disputes, fire, unavoidable casualties, adverse weather conditions, and, yes, “unusual delay in deliveries.” But the contract does not address “price;” instead, it addresses “delay” only. Further, the clause only expressly provides for an extension of time; it does not specifically provide any relief for price fluctuations in the supply chain.

Likewise, the ConsensusDocs, 200 Standard Agreement and General Conditions Between Owner and Construction, § 6.3.1, affords an *extension of time* but does not expressly provide additional compensation for force majeure events.

The fact that additional compensation is not identified does not necessarily mean that compensation is barred. But “unusual delay in deliveries” in construction contracts would typically be categorized as an event outside the fault or control of either party, which is generally an excusable, but non-compensable delay.¹⁹

A contractor-friendly force majeure clause could be drafted to address price fluctuations or to provide additional relief, such as a time extension *plus* additional compensation. Most owners would probably balk at the clause, however.

A last point of importance on drafting force majeure clauses on behalf of contractors seeking to protect themselves: care must be taken in drafting the force majeure clause broadly, to ensure that the identified force majeure events are not interpreted as exclusive.²⁰ For a contract to afford relief for economic hardship, such as price inflation or supply chain delays, it is best

¹⁸ Construction contracts typically include a clause that addresses force majeure and Act of God circumstances. When a contract addresses the issue, generally, the contractual rights and obligations will govern and any common law definition of force majeure or Act of God is subordinate. *See, e.g., Specialty Foods of Indiana, Inc. v. City of South Bend*, 997 N.E.2d 23, 27 (In. 2013); *OWBR LLC v. Clear Channel Communications, Inc.*, 266 F.Supp.2d 1214, 1222 (D. Hi. 2003); 14A Cal. Jur. 3d Contracts § 375.

¹⁹ Bruner & O’Connor § 15:42, 15:48; *see also* FAR 52.249-10; FAR 52.249-14; *Consolidated Molded Products Corp. v. U.S.*, 600 F.2d 793 (Ct. Cl. 1979) (no compensation unless an applicable changes clause allows for such). *But see Acton Const. Co. v. State*, 383 N.W.2d 416 (Minn. Ct. App. 1986) (contractor was able to recover additional costs, when severe cement shortage arose and government owner failed to respond with extension of time, thus forcing contractor to incur additional expense to keep the schedule, essentially resulting in extra work due to the owner’s failure to respond).

²⁰ *See In re Cablevision Consumer Litigation*, 864 F.Supp.2d 258, 264 (E.D. N.Y. 2012) (citing *Kel Kim Corp. v. Cent. Mkts., Inc.*, 519 N.E.2d 295 (1987)) (limiting the application of force majeure contract clause to the specific events identified in the written clause).

practice for the contract to expressly identify said risk and the specific relief afforded (time, money, or both).

Some contractors will point to a “catch-all” clause in force majeure sections. The gist of catch-all clauses is that relief may be afforded for “unforeseeable causes beyond the control and without the fault or negligence of the contractor.” It has been held that catch-all relief could apply to *unusually severe and unanticipated* supply chain disruptions.²¹

It is important to recognize that catch-all clauses of this nature are dynamic and very dependent on the facts and timing of the events. For example, if a contract was entered in January 2020, three months prior to the March 2020 global pandemic, the contractor would be in a better position to argue that the fallout from the global pandemic was unanticipated and unforeseeable. But if the contract was entered in June 2021, well into the global pandemic and at a time when supply chain issues were widely reported and known, the contractor would be in a more difficult position to claim that the supply chain disruption was unforeseeable.²²

Contract Clause of Potential Applicability – Change Orders: A negotiated contract could expressly allow change orders for identified risks, including supply chain issues. This is merely a variation of a price/material escalation clause, or a force majeure clause. Absent specific language, most change order clauses do not identify supply chain disruption as a change. Instead, change orders tend to be used for modifications to the work, extra work, upgrades, changes to the design, or unanticipated site conditions.

The common theme with these circumstances is that they are initiated by either a site event or owner decision to change the specifications, drawings, or the scope of work. Off site events, such as supply chain disruptions, typically do not fit the definitions of a change order for differing site conditions, either.²³

Common Law Doctrine – Commercial Impracticability: If a contract fails to contain a force majeure clause, some courts may still afford relief as an excusable but non-compensable delay under the common law.²⁴ Typically, the applicable doctrine is commercial impracticability.

Commercial impracticability “occurs when unreasonable, excessive, and unforeseen increases occur in a contract’s cost of performance making performance senseless from a business

²¹ *J.D. Hedin Const. Co. v. U.S.*, 408 F.2d 424, 428-29 (Ct. Cl. 1969); *Mitchell Canneries v. U.S.*, 77 F.Supp. 498 (Ct. Cl. 1948).

²² *Servant Health, LLC v. U.S.*, 161 Fed.Cl. 210, 235-36 (Ct. Cl. 2022) (holding that supplier of PPE during pandemic was not relieved by excusable delay clause, because the shipping delays during the pandemic were not unforeseeable and beyond control) (“By the time the PPE supply contracts were awarded in early 2021—a year into the pandemic—[plaintiffs] should have considered the possibility of COVID-19-related international shipping delays”); see also *Fast, Inc. v. Shaner*, 183 F.2d 504, 506 (3d Cir. 1950) (cannot claim unforeseeable hindrance to performance for events that could have been reasonably foreseen).

²³ *Bruner & O’Conner*, § 15:46; *Hallman v. U.S.*, 68 F. Supp. 204 (Fed. Ct. Cl. 1946); *Olympus Corp. v. U.S.*, 98 F.3d 1314, 1318 (Fed. Cir. 1996).

²⁴ *Tombigbee Constructors v. U.S.*, 420 F.2d 1037, 1043 (Ct. Cl. 1970) (“Neither party to a contract is responsible to the other for the damages caused by an act of God, where the contract is silent as to the allocation of the loss to one or the other.”). But see 17B C.J.S. Contracts § 698 (noting that some jurisdictions will not excuse non-performance of a contractual obligation due to Acts of God).

standpoint.”²⁵ To be afforded relief, the risk of the unexpected occurrence cannot be assigned to them, and the occurrence must render the performance commercially senseless. Under the common law, if there is no contractual force majeure clause, an Act of God—natural disasters, such as flood, fire from lightning, or volcanic eruption—may suffice as a commercial impracticability.²⁶ But, as previously indicated, Acts of God at common law are natural disasters, not economic price fluctuations.²⁷

Price fluctuations, unlike Acts of God, are typically allocated to the contractor, and an increase in costs alone is insufficient for a finding of commercial impracticability.²⁸ Even a large increase in a specific material cost, alone, is unlikely to render the contract commercially impracticable.²⁹ This is particularly true if the party was aware of the risk at the time of entering the contract.

Some courts have held, however, that economic hardships alone may allow for relief if the contract documents dictated a proprietary, sole source item. In some instances, the fact that a sole source item was mandated and was not available, particularly if not available from the manufacturer and raw material source supplier, has allowed for a finding of relief under doctrines of impracticability or impossibility.³⁰ Under the “sole source defense” that derives from U.C.C. article 2, section 2-615, an unforeseeable and severe shortage of materials that

²⁵ *Appeal of Southern Dredging Co., Inc.*, 92-2 BCA P 24886 (Eng. B.C.A. 1992)

²⁶ Bruner & O’Connor 15:46.

²⁷ See, e.g., *Stand Energy Corp. v. Cinergy Services, Inc.*, 760 N.E.2d 453, 457 (Oh. Ct. Ap. 2001) (“Mistaken assumptions about future events or worsening economic conditions, however, do not qualify as a force majeure. . . . If it were, fixed-price contracts, where the parties allocate the risk of price rises in a fluctuating market, would serve no purpose.”); *Rexing Quality Eggs v. Rembrandt Enterprises, Inc.*, 360 F.Supp.3d 817 (S.D. In. 2018) (applying Iowa law) (generally, changes in the economic marketplace are insufficient basis for force majeure relief, absent “some major, unpredictable event which caused the shift.”); *Sherin Alumina L.P. v. AluChem, Inc.*, 512 F.Supp.2d 957, 967 (S.D. Tx. 2007).

²⁸ *Dorn v. Stanhope Steel, Inc.*, 534 A.2d 798, 812 (Pa. Super. Ct. 1987); *Commonwealth v. Neff*, 114 A. 267, 269 (Pa. 1921). It is also for this same reason—risk of economic price fluctuations is traditionally and at common law borne by contractor—that mutual mistake and frustration of purpose are typically unavailing. *But see Aluminum Co. of Am. v. Essex Group, Inc. (ALCOA)*, 499 F.Supp. 53 (W.D. Pa. 1980 (the most oft cited exception (anomaly) to this rule).

²⁹ *In re Spindler Const. Corp.*, 06-2 BCA P 33376 (ASBCA 2006) (23 percent increase in steel costing an additional \$199,008.29 was insufficient for commercial impracticability when the increase was less than two percent of the prime contract); *Appeal of Jalaprathan Cement Co., Ltd.*, 79-2 BCA P 13927 ASBCA No. 21248 (ASBCA 1979) (rejecting impracticability on loss of 1/3 the contract price); *Matter of Westinghouse Elec. Corp. Uranium Contracts Litigation*, 517 F.Supp. 440, 453 (E.D. Va. 1981) (“Promisors seeking to establish impracticability by reason of increased expense have not generally found a sympathetic ear in court.”)

³⁰ *Steel Industries, Inc. v. Interlink Metals and Chemicals, Inc.*, 969 F.Supp.1046, 1051-53 (E.D. Mi. 1997) (holding that inability to deliver steel due to steel mill’s inability to produce was not a basis for relief, because the contract did not dictate that the mill at issue was the exclusive sole source supplier for the steel); *Ecology Services, Inc. v. GranTurk Equip., Inc.*, 443 F.Supp.2d 756 (D. Md. 2006) (recognizing the sole source defense under U.C.C. 2-615 and analyzing as a circumstances of impracticability in context of delayed performance in furnishing garbage trucks due to steel shortages); *Specialty Tires of America, Inc. v. CIT Group/Equipment Financing, Inc.*, 82 F.Supp.2d 434, 439-40 (W.D. Pa. 2000) (“Generally speaking, while loss, destruction or a major price increase of fungible goods will not excuse the seller’s duty to perform, the rule is different when the goods are unique, have been identified to the contract or are to be produced from a specific, agreed-upon source. In such a case, the nonexistence or unavailability of a specific thing will establish a defense of impracticability.”); *Carter Steel & Fabricating Co. v. Ohio Dept. of Trans.*, 721 N.E.2d 1115 (Ct. Cl. 1999) (contractor not liable for owner designated sole source); *Blount Bros. Corp. v. U.S.*, 872 F.2d 1003, 1007 (Fed. Cir. 1989) (commercially impracticable specification afforded contractor excuse from performance).

prevents the procurement of goods or creates a marked increase in the prices could be a basis for relief. Some courts have extended this reasoning to performance in construction contracts (which are typically not covered by the U.C.C.) all under the same reasoning as commercial impracticability. Thus, there are rare cases that afford relief to a contractor when the supply chain is dysfunctional, even outside of Acts of God.

IV. Special Issues

Notice: Regardless of whether a contractor seeks relief under any specific clause or any type of doctrine, typically, prompt notice of the price escalation is required. Notice is often dictated by the applicable contract clause, any applicable claim or change order clause, or even if relying upon a non-contractual basis for relief, notice of the event is often required otherwise any argument is waived. Further, identifying a problem and communicating it is often the first step towards a solution. For public projects, notice is particularly important because the prime contracts often have deadlines for noticing requests for equitable adjustments, change orders, and claims. Typically, the first instance of cost overruns is experienced by the lower tiered trade subcontractor; thus, it must timely notice and communicate the issue to the prime contractor to allow for the prime contractor to properly investigate and certify the legitimacy of the claim for presentation to the owner. Also, a subcontractor will have difficulty obtaining relief from a prime or owner if it failed to timely notice the event. In some instances, the subcontractor is expected to work with the contractor and owner to seek to mitigate or avoid the losses in a reasonable manner.

Documentation: Again, regardless of the doctrine or argument for relief, a contractor will likely be required to present reasonable documentation of the event. For some events (e.g. a hurricane event) it will be relatively simple. For other events (e.g. manufacturer's refusal to honor prices), it may require presenting confidential information unknown to owner. Still, even if documentation of the event is simple, care must be taken to ensure that the documentation presents clear information on the duration of the event, the measuring points for the price comparisons, and the reasonable efforts made to solve the problem.

Best practice dictates that the contractor have clear documentation of its pre-bid estimate of costs for the work at issue and the basis for said figures. Basis for the figures could be market quotes or historical data including the historical market prices for the labor/materials.

Documentation must also be maintained of the actual costs for the labor/materials to show the price increase and the related harm/costs suffered by the contractor. If the claim is that the price increase was caused by a specific event that affords relief, then, being able to show the timing of the estimated costs and the increase in the actual costs is crucial evidence.

Compound Issues: This is a lengthy topic to itself; thus, merely noted here. It is possible that the acts or omissions of the owner, design professionals, or other contractors could affect the the rights and obligations as to supply chain risks. For example, if a project schedule anticipated work to be performed in the first quarter of 2021, but due to owner's delay, the work will be performed in the fourth quarter of 2021, then, it's possible that any additional costs of supply chain problems that would not have been present in early 2021, but are present when the work is

performed, could be allocated to the owner's delay.³¹ Thus, any supply chain losses should be analyzed closely to determine whether the risk/loss was the result of pure economic hardship, or was a compound loss caused by others as well.

V. Contract Negotiation Approaches

Price Escalator Clauses: Contract clauses that provide for price escalations for either labor or material are enforceable and can be freely negotiated. Care must be taken, however, to ensure that the clause specifically identifies and addresses key issues, such as the type of material/labor that is subject to the escalator clause; any safe harbor or threshold (whether that be time duration or price increase) necessary to trigger the clause; the comparative time “snapshot” to measure the baseline price and the increase; any index or documentation of the price increase; the manner for communicating and confirming the resolution to the price escalation; and whether there is any shared risk or split in the coverage of the price increase. Care must also be taken to properly document and communicate the issue per the contract. Also, escalator clauses should be coordinated up and down the contract chain.

Contingencies or Allowances: Contract clauses can be negotiated for earmarked contingencies or allowances to address the risk of supply chain disruption. This approach is in general accord with the philosophical body of risk allocation of construction projects. For example, differing site conditions are a “known unknown.” The construction industry is well aware that unforeseen site conditions can arise. At old common law, the contractor was responsible for any site conditions that arose on the project. This resulted in contractors bidding higher prices to account for the potential risk of unforeseen events. By using a differing site condition clause, it essentially creates a carve-out contingency fund for differing site conditions, which allows for a job to be bid at a lower price excluding those issues, and to the extent that any issues arise, the owner keeps the savings of unused contingencies.

This same idea can be applied to supply chain disruptions by earmarking specific funds for addressing supply chain problems—typically by purchasing more expensive material as a substitute. Also, the general idea of contingencies is to provide funds to keep the project progressing on pace when issues arise. The reality of the current global economy is simply that there is more risk, volatility, and unpredictability. It therefore makes sense that contingency budgets in general should be higher than the recent past, because projects are simply riskier.

Substitutes or Alternates: Additional flexibility to purchase available, similar, or even different or refurbished materials is another approach to mitigate or avoid supply chain problems. Contract clauses can be negotiated that specifically address substitutions, alternates, and proprietary items. This may reduce costs (if a lesser alternate is used); or it may increase costs (if a more expensive alternate is used that can be obtained more quickly).

Time and Material Carveouts: For certain high risk and volatile work, portions of the scope can be segregated and all risk placed on a single trade contractor, or the risk can be isolated as its

³¹ See, e.g., *Appeal of ADT Construction Group, Inc. by Timothy S. Cory, Chapter 7 Trustee*, 15-1 BCA P 35893 ASBCA No. 57322 (ASBCA 2015) (where government is cause of delays that causes work to proceed in a higher priced time period, costs of material or wage escalation are delay damages).

own time and material buyout. This may be more expensive than preferred, but it might allow for faster procurement of certain work and materials.

Schedule Relief for Liquidated Damages: Typically, liquidated damages are used to enforce the project schedule. In this environment, however, the disruptions and requests for time extensions cause a significant amount of construction contract administration and disputes. One approach to this issue is to accept the reality that extensions to the schedule are likely and agree to a safe harbor of reasonable delays, with liquidated damages to only apply after the safe harbor period (and any extensions).

Shorter Price Holds for Buyouts and Contracting: Because prices and availability are volatile, decision making for procurement and contracting can be shortened to ensure that the price and schedule are made on the best, most recent data.

Bonds and Financial Strength Pre-qualifications: Requiring key trade contractors to post payment and performance bonds in event of escalation problems that cause default. Similarly, requiring stronger financials for prequalifying is prudent if there is complete risk of supply chain issues on said trade contractor. Other approaches are to obtain a supply bond just for material risks.

Flow-Down and Flow-Up Clauses: The risk of price volatility can be flowed-down to trade contractors to protect the contractor and higher tiered surety bonds. Likewise, and particularly if a private project, it may be possible to flow-up clauses, if a specific supplier or manufacturer is refusing to lock-in prices.

If All Else Fails – Higher Price for the Higher Risk: If desiring to bid on a project, but no relief for likely supply chain disruptions, the only other approach is to increase the bid price for the work, to account for the likely additional risk of additional costs.

VI. Project Management Approaches

Communication is Key: From the beginning, identification and communication of issues is necessary to mitigate or avoid supply chain problems. If the owner's proposed schedule is not possible, based on the status of the supply chain, this should be raised early, during the bid if possible, to avoid progress down a contracted path that is not possible. As the design develops, and as the project is constructed, continued identification of supply chain issues and communication of the impact is necessary to ensure a properly coordinated schedule, sequence, and contractual allocation of risk. It is also recommended that trade contractors provide updates on the status of buyout and procurement of materials 90, 60, and 30 days prior to the anticipated on site delivery date.

Value Engineering and Design Assist: By working with the contractor during preconstruction, typically in a design assist arrangement, selections of materials and systems can be made in a manner to avoid long lead or problematic selections. Also, long lead items can perhaps be specified sooner, to allow for locking in prices and advance purchase.

Frontloading the Purchase, Payment, and Storage: The parties can agree that the materials will be procured as soon as possible and warehoused till the time of need, to ensure that the project schedule can progress as smoothly as possible. Due to long lead items, this may mean owner procuring or authorizing and remitting payment for equipment or appliances during preconstruction, before finalizing the design of the project. If doing this approach, the parties should agree that materials purchased in advance can be billed as soon as possible, even if stored off site. Also, additional funds will need to be priced into the contracts for storage, warehousing, double-touching transportation costs, insurance, and bonding.

Additional Staffing and Administration: Increased staffing is a likely result of this challenging environment, for the work of sourcing, pricing quoting, and researching alternatives. Contractors and trade contractors should be prepared to allocate more time and resources to administering the buyout, due to the need for more creativity and efforts to keep the buyout on price and schedule. This may mean more overhead, administrative costs, or personnel for project management.

Avoid Unique Systems/Materials: If a project requires a unique system/material, and that item has supply chain issues, it can cause significant problems. Thus, one management technique is for the project to have more overall flexibility in substitutes and alternates.

Re-evaluating the Responsibility and Staffing for MEPs: Currently, the supply chain disruption is significantly impacting the mechanical, electrical, and plumbing trades. Applying extra staffing and/or clear communication of carved-out design delegation or assist at early stages to focus on the design and procurement can shorten the longest lead items.

Strong Business Relationships: A well funded project with good business relations between owner, prime, and key trades, appears to have the best outcomes, especially if the owner is willing to expend more money to bring the project to completion on the best quality and schedule possible in these challenging times. Similarly, if a trade contractor goes insolvent in the middle of a long lead item, that can be very problematic for the project. Thus, financial strength of prime and trade contractors is important to ensure that projects can continue through adversity and reach the finish line. Rigid, inflexible, hard bid projects with contentious relationships are very challenging, risky, and dispute laden.

Schedule Development, Monitoring, and Updates: Starting with the baseline schedule, proper consideration should be given for long-lead items. Submittal and fabrication process and duration, along with anticipated delayed delivery should be factored into the schedule design and baseline schedule. During the schedule design and preconstruction phase, if possible, communication should be had with key trade contractors and/or vendors/suppliers to ascertain the likely impact of the supply chain on the schedule and to plan accordingly. If preconstruction input during schedule design is not an option (e.g. documents are let out to bid), then, negotiation during the bid process if available to raise these issues is important. If a public, hard-bid job with no negotiation ability, then, use of pre-bid clarifications or inquiries is recommended to raise and address identified issues with a schedule that is poorly developed and fails to account for anticipated supply chain issues.

An accurate project schedule should be updated periodically to monitor the status of construction and essential material deliveries. Schedule updates should include inquiry and responses from trade contractors and key suppliers/vendors on the status of material deliveries or any supply chain issues. Periodic accurate project schedules will allow for advanced warning and give the project team time to develop solutions.

Source Locally: The use of local fabricators and material suppliers should be considered to avoid delays and rising costs of international transportation. Recently, the international supply chain has been impacted by large backlogs in U.S. ports and the war in Ukraine. Local suppliers often offer flexibility, greater control, and reduced delivery times.

Focus on mutually beneficial outcomes: Owners and Contractors should focus on flexibility towards finding solutions to project issues and not take rigid, hard lines. Supply chain issues are often not the fault of either owner or the contractor, and it makes little sense for these parties to attack each other rather than work together to resolve the challenging problem.