The Squeeze Play: Fictional Theories of Recovery by Contractors in Public Works Projects

by Brent Douglas and William Pate

I. INTRODUCTION

The economic downturn has lead to two dramatic changes in the bidding process for public works projects: first, contractors with little to no experience with public projects are seeking new revenue streams by bidding for jobs; and second, contractors, desperate to win such jobs, are submitting unrealistically low bids. Both of these events lead to the same outcome – a firestorm of post-construction litigation.

In the first example, a contractor with no public works experience may be unfamiliar with the exacting demands of the Division of State Architects, and it may attempt to use materials or installation methods otherwise suitable for a job but expressly disallowed in public buildings. When inspectors inevitably demand replacement and large scale reinstallation, accusations fly over what the plan specifications called for, and expensive words come into play such as breach, reliance, and misrepresentation.

In the second example, a contractor who submits an unrealistically low bid so as to be awarded a job has no choice but to identify as many change orders and submit as many delay claims as possible just to turn a profit.

As these post-construction claims make their metamorphosis from demand letter to government claim to civil suit, contractors, claims managers, and attorneys have recently submitted claims never before seen by California public entities. Topping the list of novel ways contractors have suddenly been harmed by project delays are two mathematically confusing and legally unfounded theories of relief: the Eichleay Formula and the Overmanning Theory.

A claim based on the Eichleay Formula is, in short, a claim for unabsorbed home office overhead when a project is delayed. On paper, this makes sense: if there is staff exclusively devoted to a delayed project and they are unable to contribute to the contractor's other ongoing projects during the delay, the contractor has been harmed regardless of the fact that those personnel were not physically positioned at the job site itself. Undoubtedly, the contractor has experienced lost business opportunity through the unexpected delay. In practice, however, the calculation of unabsorbed home office overhead exposes owners to unforseen liabilities that are often only inflated by a contractor's poor business model and egregious home office expenses.

Similarly, after a project is delayed, owners often issue accelerated or compressed work schedules. Owners and general contractors demand a higher rate of progress during the compressed schedule, and more workers are intrinsically required. The increase in the number of laborers or labor crews on a project to a level more than the originally scheduled, optimal level is called overmanning. Overmanning is desired by owners because it results in little to no

overtime, fewer coordination problems with other subcontractors, and, hopefully, a project completed on time.

Overmanning claimants, however, assert that overmanning has inherent problems: site congestion, dilution of supervision, a higher cost per unit hour as a result of additional crew members being inadequately trained, a higher accident rate, and supply chain inefficiencies. In practice, though, overmanning claimants demand compensation for natural job site variances and claim that reimbursement is due for damages impossible to foresee by the owner at the time of contract formation.

Together, both Eichleay and Overmanning present legally unsound theories of recovery. First, both demand compensation for unproven damages calculated only by the use of contractor-created formulas, not actual loss. Second, both seek compensation for special damages not conceivable by owners at the time of contract formation, contrary to over a century of contract law. And third, because public entities must award contracts to the lowest qualifying bidder, owners may unwillingly expose themself to damages they would have expressly avoided. This paper is an analysis of each of these theories of relief and why no public entity should ever compensate a contractor for its claimed losses asserted thereunder. Each is discussed in turn below.

II. THE EICHLEAY FORMULA

A. What is the Eichleay Formula

In recent months, California public entities have discovered that the vast majority of the claims presented by contractors on delayed projects are not for personnel or equipment physically stuck on the job site. Rather, contractors seek compensation for "unabsorbed home office overhead." Though such recovery is not mandated or codified by California law, it is commonly awarded in federal courts for federal government projects, and local contractors have caught on. One recent delay claim on a Southern California public works project asserted that an astonishing 90% of the contractor's damages incurred during delay are from unabsorbed home office costs.

Conceptually, a claim for unabsorbed home office overhead seems reasonable. In addition to the easily imagined costs of construction, such as materials and labor, a contractor's bid is also an effort to recover its ongoing external costs, such as home office rental, equipment purchased prior to the job, and marketing. But when a 6 month project turns into a 12 month project, a contractor that expected to pay for a certain percentage of its marketing effort from this job has to rethink how to pay for its marketing commitments. Regardless of the fact that some personnel were not actually positioned at the job site or that these expenses were not exclusively devoted to the delayed project, the contractor has experienced damages and lost business opportunity. To quantify this loss, contractors created the Eichleay Formula.

B. How is the Eichleay Formula Calculated

The Eichleay Formula, created in 1960 to calculate the impact of delay and disruption in federal construction projects, is the most common calculation of unabsorbed home office overhead.[1] Pictured graphically, the Eichleay Formula compensates a contractor in the following situation:

	Year 1	**Year 2**	**Year 3**	**Year 4**
Originally Scheduled Performance	Basic Contract	Basic Contract		
Actual Contract Performance	Basic Contract	Delay / Modifications	Delay / Modifications	Basic Contract
Home Office Cost Absorption	Full Absorption	**Partial Absorption / Eichleay**	**Partial Absorption / Eichleay**	Full Absorption

The Eichleay Formula is a three step process. First, Eichleay determines the pro rata share of the contractor's total home office overhead that is allocable to the delayed contract. Second, it then converts that into an amount per day. Finally, the calculated daily rate is multiplied by the number of days the project was delayed.

Thus, the Eichleay Formula looks like:

Step 1: $\frac{\text{Delayed Contract Price}}{\text{Total Billings for Contract Period}} \times \text{Total Home Overhead} = \text{Total Overhead Allocated to Project}$

Step 2: $\frac{\text{Total Allocated Overhead}}{\text{Days of Performance}} = \text{Daily Contract Overhead}$

Step 3: Daily Contract Overhead x Number of Days Delayed = Amount of Claim

[1] Appeal of Eichleay Corp., 61-1 BCA P 2894.

To use real numbers, imagine a public entity and a contractor enter into a $1M contract that is scheduled to last 180 days. The contractor is going to do $10M in business that calendar year, $5M of which is during the 180 days of the contract's originally-scheduled performance. The contractor spends $500k/year in home office overhead. Ultimately, performance on the contract is delayed 90 days.

Step1: $\frac{\$1,000,000}{\$5,000,000}$ x $500,000 = $100,000 Total Home Office Overhead Allocatable to Project

Step 2: $\frac{\$100,000}{180 \text{ days}}$ = $555.55 Home Office Overhead Allocated To Project Per Day

Step 3: 90 days of Delay x $555.55 = $49,999.50 Unabsorbed Home Overhead

C. Problems with the Eichleay Formula

Two problems with the Eichleay Formula are instantly apparent, as two of the most important figures in its calculation – the contractor's total billings and the contractor's total home office overhead – are known only by the contractor at the time of contract formation. First, how would a project owner have any idea what percentage of a contractor's total billings the contract in question represents? Second, why is a project owner forced to subsidize a contractor's home office business lifestyle during a delay, no matter the practicality of that lifestyle?

For example, in the above hypothetical, imagine the contractor – in anticipation of great business growth in the year to come – moves home office locations to a downtown high-rise with a rent of $100,000/month. Additionally, the contractor just added 20 new employees at $60,000/year, and as a loyalty incentive awarded its 5 senior executives $100,000 each in bonuses. Now the contractor's Total Home Office Overhead in Step 1 is $2.9M. Without any other increase in business by the contractor, this changes the owner's daily allocated home office overhead from $555.55 per day to $3,222.22 per day, for a total liability of $290,000 after a 90 day delay. Through no change in the relationship between the owner and contractor, the owner's liability for a delay just increased almost six times over. A unilateral decision by a contractor to pay its employees more and occupy a more expensive home office can cost a California public entity thousands. Under the Eichleay Formula, the owner is at the mercy of the contractor's whims.

Most importantly, a contractor's decision to pay its employees so well or to rent such lavish facilities is entirely unknown by the owner at the time of contract formation. This is contrary to longstanding contract law. While it is indisputable that the goal of awarding damages in a breach of contract action is to compensate an injured party with the equivalent of the benefits of contract performance,[2] damages are limited to those that naturally flow from the

[2] *See, e.g.*, Civ. Code § 3300; *Christensen v. Slawter* (1959) 173 Cal.App.2d 325, 330; 1 Witkin, Summary of Cal. Law, 10th ed. Contracts § 869, p. 956.

breach and which might have been reasonably contemplated and foreseen by both parties at the time of contract formation.[3] This fundamental principle of contract damages is based upon the idea that a party does not and cannot assume limitless responsibility for all consequences of a breach. At the time of contracting, a party must be advised of the facts concerning special harm that might result therefrom, in order that the party may determine whether or not to accept the risk of contracting.[4]

For example, in *Sabraw v. Kaplan*, a contractor was delinquent in its completion of drugstore. The court rejected the owner's claim to recover money paid to a pharmacist who was unable to begin work due to the delay. The court held:

> If special circumstances cause an unusual injury, **special damages cannot be recovered unless the circumstances were known or should have been known to the party at fault at the time the contract was made.** . . . [And] under the evidence presented, it could not have been within the reasonable contemplation of the parties, Sabraw and Kaplan, or reasonably foreseeable by them, that Kaplan would enter a partnership agreement with a third person and would advance a drawing account against profits.[5]

The Eichleay Formula is in essence an award of special damages after the breach of a contract, contrary to over a century of rudimentary contract law.[6] A contractor's overall business portfolio and its home office expenses are entirely unknown and not reasonable foreseeable by a public entity at the time of contract formation. This asymmetry of information should preclude recovery by contractors as a matter of law, but it is not currently well-settled law, and public entities should immediately modify their contracts to expressly forbid recovery under this theory.

Perhaps most important of all, in the public contract setting, public entities must award contracts to the lowest responsible bidder.[7]

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[3]*See, e.g., Hadley v. Baxendale* (1854) 9 Ex. 341, 156 Eng. Rep. R. 145; *Coughlin v. Blair* (1953) 41 Cal.2d 587, 603; 1 Witkin, Summary of Cal. Law, 10th ed. Contracts § 871, p. 957.

[4]*Martin v. U-Haul, Co. of Fresno* (1988) 204 Cal.App.3d 396, 409; *quoting Brandon & Tibbs v. George Kevorkian Accountancy Corp.* (1990) 226 Cal.App.3d 396, 409.

[5]*Sabraw v. Kaplan* (1962) 211 Cal.App.2d 224, 227; 1 Witkin, Summary of Cal. Law, 10th ed. Contracts § 871, p. 957 ["If *special* circumstances cause some *unusual* injury, *special* damages are not recoverable therfor unless the circumstances were *known* or *should have been known* by the guilty party at the time he or she entered into the contract."]

[6]*See, e.g., Martin v. U-Haul, Co. of Fresno* (1988) 204 Cal.App.3d 396, 409; 1 Witkin, Summary of Cal. Law, 10th ed. Contracts § 871, p. 957.

[7]Pub. Contr. Code § 61109, *et. seq.*

Thus, even if the District were to somehow know of a contractor's lavish lifestyle or its overall business portfolio, there is nothing the District could do if it wished to avoid exposure to that specific contractor's home office business practices.[8]

D. The Solution

Because California courts have neither ratified nor rejected the Eichleay Formula as law, public entities must address the situation head-on. Unfortunately, most public entities's standard contracts do not address home office overhead or Eichleay. As a result, public entities are left exposed to lengthy and expensive litigation and are disarmed of early litigation tools such as demurrers and motions for summary judgment. Accordingly, the Eichleay Formula must be expressly mentioned as an inaccurate and unrecognized calculation of delay damages in public works contracts. The following addition to all contracts should dramatically improve a public entity's position during the claims process and the summary judgment stage in litigation:

> In the event of a [Public Entity]-caused delay in the commencement or progress of Project, Contractor shall only be entitled to recover losses actually incurred as a direct and proximate result of the delay. [Public Entity] will compensate Contractor for the expenses incurred for employees and equipment mobilized to Project Site and – at the Determination of [Public Entity] – unable to be reasonably reassigned to other Contractor work. In no event shall Contractor be compensated for any delay if the delay was announced in writing to Contractor 30 or more days before delay began, as such early announcement will constitute an automatic conclusion that all Contractor employees and equipment could have reasonably been reassigned to other Contractor work or cancelled.
>
> [Public Entity] will not compensate Contractor for unabsorbed home office overhead for delays announced in writing 30 or more days prior to the first day of delay. In the event of delay not announced in writing to Contractor 30 or more days prior to the first day of delay, [Public Entity] will only compensate Contractor for unabsorbed home office overhead directly attributable to Project. No formula such as the Eichleay Formula or any of its modifications based upon Project's pro rata share of Contractor's total home office overhead will be used. In no event will [Public Entity] compensate Contractor for the rent or mortgage payments of its home office facilities or for any Contractor-owned depreciable asset, such as, but not limited to, vehicles and heavy equipment. Because the nature and extent of such Contractor liabilities are unknown to [Public Entity] at

[8]Ostensibly, courts have prevented egregious abuses of the Eichleay Formula by establishing three prerequisites for its use. First, the delay must be caused by the public entity owner. Second, the contractor must prove that it was on "standby" - ready to mobilize and resume performance - throughout the delay. And third, the contractor must show that it was unable to take on additional work during the delay. While these prophylactic measures would seemingly make Eichleay a fair model of compensation, courts have been very liberal in their interpretation of the three requirements, and contractors consistently recover large, unsubstantiated claims.

the time of Contract formation, they are considered special damages and outside the proximate and natural result of Project delay.

[Public Entity] will not compensate Contractor for employees or equipment not directly attributable to Project. Determination of which Contractor employees and equipment are attributable to Project will be at the sole discretion of [Public Entity]. In making its determination of Contractor's home office expenses directly attributable to Project, [Public Entity] shall have full access to audit and evaluate Contractor's payrolls, equipment and tool invoices, all contracts requiring Contractor performance within three years before or after commencement of Project, and any other documentation or paperwork that may support Contractor's claim for unabsorbed home office overhead. In the event Contractor denies [Public Entity] access to any supporting paperwork for a full audit, any claim for unabsorbed home office overhead will be denied.

The above paragraphs should greatly limit a public entity's exposure in two ways. First, as a legal matter, any Contractor's obvious reliance on the Eichleay Formula would not survive summary judgment. A public entity would be able to inform the court that a contractor is relying upon a formula based upon the Project's pro-rata share of the contractor's total home office overheard, and such formulas are expressly prohibited.

Second, and perhaps more useful, the expansive auditing power afforded to a public entity in the above contract may simply eliminate frivolous claims to begin with. The ideal position for a public entity is not merely to defeat a claim for unabsorbed home office overhead, but to avoid litigating a claim in the first place. Of course, it should not be the objective of a public entity to circumvent its liability to compensate a contractor for its actual losses. Rather, the above limitations are a good faith effort to (1) identify with greater specificity a contractor's compensable damages during a delay; (2) expedite the claims process; and (3) act in accordance with longstanding contract law.

III. THE OVERMANNING THEORY

A. What is Overmanning

Overmanning is simply defined as an increase in the number of laborers or labor crews on a project to a level more than the optimal level. Under the overmanning theory, the optimal level of workers is the minimal level required to maintain the originally scheduled pace of the project. But when a delay occurs, owners or general contractors often issue accelerated or compressed work schedules. This naturally results in daily workforces greater than what was considered optimal for the original project. To compensate themselves for damages allegedly incurred by this larger workforce, contractors invented the overmanning theory.

Overmanning theorists assert that overmanning has inherent problems: site congestion, dilution of supervision, a higher cost per unit hour as a result of additional crew members being inadequately trained, a higher accident rate, and supply chain inefficiencies due to materials being consumed at a greater rate. In essence, the overmanning theory is claim of inefficiency,

and contractors have devised a formula to account for their damages allegedly incurred as a result of this unforseen inefficiency. The formula, however, is a mystical creation based upon unfounded numbers seemingly pulled from the ether, and no public works owner should compensate a contractor for its use.

B. How is Overmanning Calculated

Overmanning is calculated through a two-step process. First, you calculate the Overmanning Ratio on a project. Second, you insert the Overmanning Ratio into the Lost Efficiency Equation.

The Overmanning Ratio the ratio of peak manpower to average manpower. The greater the value of this ratio, the greater the presence of overmanning on a project. To calculate the Overmanning Ratio, first you must calculate the average manpower for the project. Then, divide the highest number of craftsmen ever present on the job site by this average.

$$\text{Average Manpower} = \frac{\text{Total Project Manhours}}{\text{Duration (in weeks)} \times \text{Manhours per Week (usually 40)}}$$

$$\text{Overmanning Ratio} = \frac{\text{Peak Number of Craftsmen}}{\text{Average Manpower}}$$

For example, let's employ a hypothetical to be used throughout our overmanning analysis. Image a public works project that required 30,000 manhours over 80 weeks. During of 26 those weeks, weeks 39 to 75, 11 or more workers were required, and 20,000 manhours were worked on those days. During one large scale effort, 23 workers were required for one day. The average worker compensation – including supervisors – was $50.00/hour. For this example, the average manpower would be:

$$\text{Average Manpower} = \frac{30{,}000\text{mh}}{80 \times 40} = \frac{30{,}000}{3{,}200} = 9.375 \text{ workers}$$

Thus, for this project, the average and optimal number of workers was 9.375 men per week. It is appropriate to round up to 10. Next, we divide the peak number of craftsmen – the day when the absolute maximum number of workers were present – by the average number. On our hypothetical project, one day required 23 craftsmen.

$$\text{Overmanning Ratio} = \frac{23}{10} = 2.3$$

This is the Overmanning Ratio. Thus, an overmanning ratio of 1.0 represents perfect efficiency on a worksite. According to overmanning theorists, an overmanning ratio between 1.0 and 1.5 is to be expected on a project, and an overmanning ratio of greater than 1.6 indicates

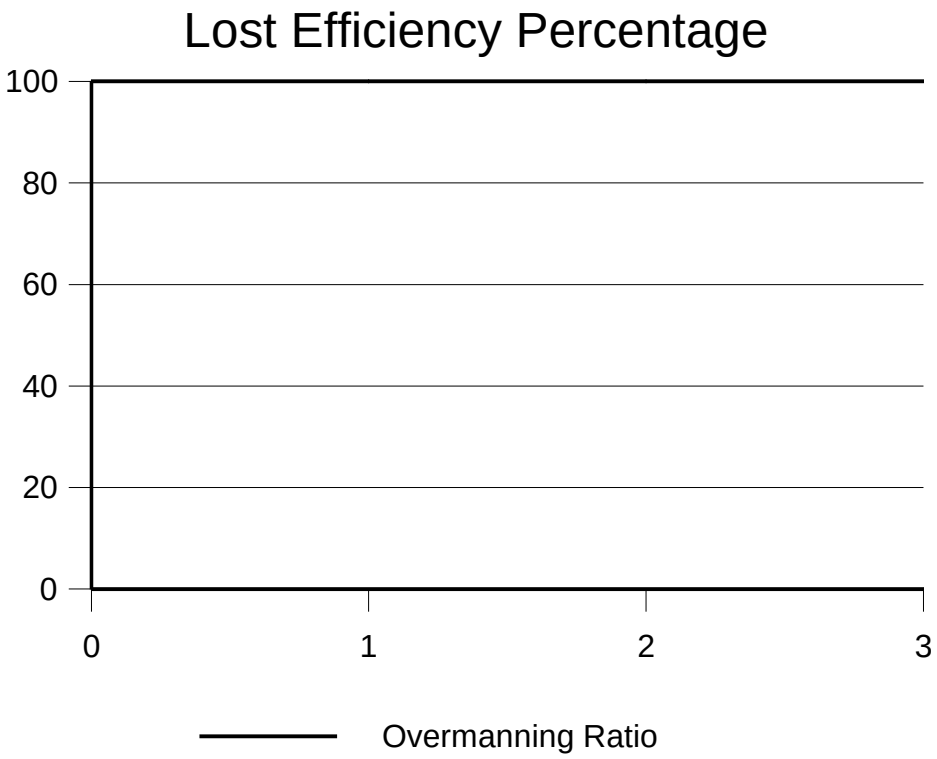
compensable overmanning was present on a project.[9] Because our hypothetical yielded an overmanning ratio of 2.3, this fits squarely within an overmanning framework.

After calculating the Overmanning Ratio, the next step is to insert it into the Lost Efficiency Equation to calculate the compensable amount of lost efficiency on the project.

The Lost Efficiency Percentage on a project is simply:

0.0733 + (0.0741 x Overmanning Ratio)

This can be expressed in a chart as follows:



Thus, as you can see, as the Overmanning Ratio increases, so does the Lost Efficiency percentage and quantifiable amount of diminished efficiency. But, where do the numbers come from the calculate the Loss Efficiency percentage? No one knows! Well, someone does. Professor Awad S. Hanna from the University of Wisconsin is largely credited with quantifying overmanning into a compensable sum. Professor Hanna's research revealed that overmanning was highly specific

[9]This threshold was derived from a study conducted by the Construction Industry Institute ("CII"). CII is a leading interest group and lobbying firm devoted to creating "benchmarks and metrics" such as the Overmanning Ratio that contractors can use to claim losses on a project.

to each trade. For example, a sheet metal contractor typically experiences a peak in workmen present a job site when 25% into the duration of a project a project, and at the end of that peak period it should be 65% complete with his portion of the work. Conversely, Hanna discovered that mechanical contractors typically peak at 50% of the job duration, and at 20% of job duration, the mechanical contractor should be only 20% complete with his portion.[10]

Unpersuaded by nuance, construction lobby groups have convinced contractors to utilize blunt tools and universal formulas to seek compensation from delay. Consequently, most claims presented to public entities fail to explain the minutiae of any overmanning figures, only that compensation is due.

To apply the Lost Efficiency Equation to our overmanning hypothetical:

Lost Efficiency % = 0.0733 + (0.0741 x Overmanning Ratio)

Lost Efficiency % = 0.0733 + (0.0741 x 2.3) = 0.0733 + 0.17043 **= .24373**

Accordingly, our hypothetical contractor should claim a 24% loss in efficiency for the weeks that overmanning occurred. On this project, any day with 11 or more workers had more than the optimal number of workers and was a victim of overmanning. 10 or more workers were present during weeks 39 to 75, during which 20,000 manhours occurred. Thus, with this we may calculate the total damages:

20,000 mh	x	.24 (Lost Efficiency %)	=	4,800 hours lost
4,800	x	wage earned	=	damages
4,800	x	$50.00	=	**$240,000**

Accordingly, our hypothetical contractor was damaged by $240,000 because of the inefficiencies on this project. In addition to any other loss the contractor experienced as a result of the delay, this contractor should be awarded $240,000 because its workers could not work *as efficiently* as possible.

C. Problems with the Overmanning Theory

Obviously, the overmanning theory has a host of both logical and legal problems. By my count, there are at least nine:

1. Formula Calculation

The numbers that comprise the two major steps in the calculation of damages as a result of overmanning are illogical and, in most cases, unsupported by any exposition. The prudent eye notices that the key numbers in steps one and two – 0.0733 and 0.0741 – will always create a somewhat reasonable claim for lost efficiency, typically between 20% and 40%, no matter what

[10]Cite - see references at http://contractormag.com/piping/cm_newsarticle_596/

numbers you use. In creating a catch-all overmanning formula for all trades, a savvy lobbyist likely speculated the amount a contractor could reasonably claim as damages and worked backwards.

Further, note that even if a project has perfect efficiency – and thus an Overmanning Ratio of 1.0 – the Lost Efficiency Equation yields a lost efficiency of 14%. Thus, a contractor should be able to recover 114% of its paid wages for the weeks despite perfect efficiency.[11]

2. Proven Harm

Even assuming the numbers used by overmanning theorists are accurate, overmanning theorists do not explain exactly what harm is done by having too many men on a project. By claiming overmanning, is a contractor admitting they provided a less quality job than had the same project resulted in the same product but over more days? By their own admission, overmanning theorist posit that overmanning results in the use of "additional crew members being inadequately trained."[12] But why?

Further, overmanning theorists claim there are "supply chain inefficiencies due to materials and tools being consumed at much higher rates."[13] In what way does using, say, sheet rock, at a greater rate result in an inefficient use of it? Can contractors not order supplies and goods pursuant to their needs?

Moreover, why is there only inefficiency on the days where there are more than average workers? If a project schedule is condensed, and a contractor must provide an unforseen increase in workers, *but* the contractor supplies those workers evenly spaced over the entire project, it does not recover damages under the overmanning theory. Either the condensed schedule – announced at the beginning of a revised work calendar – caused damages or it did not.

Admittedly, there is one aspect of overmanning that makes sense: the risk of injury. If a project owner condensed a schedule into one week, resulting in a tornado of crews running around trying to meet a deadline, people may get hurt. Absent actual injury or an increased cost of insurance premiums, however, no harm can be shown by overmanning.

3. Contractors Control Staffing Levels, Not Owners

Notably, overmanning theorists do not claim that an owner ever demanded a precise number of workers on a job site. While the work requested may demand more workers, the

[11]Which can still occur even if there is perfect efficiency. A three week project with staffing levels of 5, 10, and 15 workers for each respective week experienced inefficiency – according to the overmanning theory – on week 3, as it was above the average, optimal level of 10.

[12]CITE - go to CII.org

[13]CITE - go to CII.org

staffing decisions of a project are the contractor's, and it is solely to blame. In our hypothetical, at no point did the owner demand 24 workers instead of the usual 10. In fact, the owner never demanded the usual 10, just that the work be completed. If the presence of each additional worker causes *every other worker* to became less efficient – shouldn't the contractor stop adding additional workers?

Similarly, the Overmanning Ratio can be inflated by a savvy contractor on any given day. The use of the absolute peak manpower – no matter how rare that staffing level was needed – is a logical fallacy and permits a contractor to staff 20, 30, even 40 workers for one hour, obtain a ludicrous peak over average ratio, and then get compensated for all other days when grater than average workers were present.[14]

4. Owners Do Not Bear Responsibility for Staffing Miscalculations

Even if a contractor *is* harmed by overmanning, it is unclear if the owner is responsible for it. Overmanning allegedly demands that contractors devote above average resources to a project so that the project may be completed on time. Doesn't this allow for these same workers to be on other project sites after the accelerated project's completion? Further, a contractor that is behind on a project through its own fault and must supply an abnormally high number of workers in the final weeks of a project would be able to recover under the overmanning theory.

5. Fluctuations in Labor Needs are Natural

Perhaps most important of all, fluctuations of needed labor on any job site are natural. If I were a contractor presented with the criticism above – that a contractor should supply craftsmen evenly spaced over a project and thus not recover damages from overmanning – I would rebut, "but the project naturally dictates more manpower on certain weeks." And I would be right.

Apply the following hypothetical to the overmanning theory.

A bricklaying crew has been contracted to build the exterior facade of a university student center. Formerly a 14 week project, soil problems delayed breaking ground, and the project now must be accomplished in 12 weeks to maintain the original completion date. To accomplish this, the team will need 10 workers to work 40 hours per week for 7 weeks at $30 per hour. One side of the building, however, hangs dramatically on a cliff overlooking the ocean. For this portion, the additional scaffolding and safety requirements necessitate 20 workers for 4 weeks. Finally, as the centerpiece of the university's new commitment to student relaxation, there will be a grand fireplace in the middle of the student center. The fireplace mantle will be a

[14]Recognizing this obvious problem, CII created an artificial maximum on the applicability of the overmanning theory. According to CII, if the Overmanning Ratio is greater than 3.95, then overmanning is not applicable. This, of course, makes no sense. If a company has allegedly experienced damages as a result of overmanning inefficiency, then wouldn't it want compensation for even more egregious staffing requests? This only bolsters suspicions that overmanning was created to bite off just as much – and no more – than contractors suspected they could get out of unsuspecting owners.

single piece of quartz weighing over 500 tons. To install the mantle, the crew will have to cut a hole in the roof, bring in a crane, and lower the quartz into place. The mantle installation will take only one week, but this newsworthy spectacle will require a whopping 40 workers.

This project sounds reasonable, but not according to the overmanning theory.

$$\text{Average \# of craftsmen} = \frac{\text{Total Project Manhours}}{\text{Duration (weeks) x Hours per Week}}$$

$$\text{Average \# of Craftsmen} = \frac{(10\text{x}40\text{x}7) + (20\text{x}40\text{x}4) + (40\text{x}40\text{x}1)}{(12 \text{ x } 40)}$$

$$\text{Average \# of Craftsmen} = \frac{2800 + 3200 + 1600}{480} = 15.833 \ (16)$$

$$\text{Peak over Average Ratio} = \frac{40}{16} = \mathbf{2.5}$$

Next, calculate Lost Efficiency:

Lost Efficiency % = 0.0733 + (0.0741 x Overmanning Ratio)

Lost Efficiency % = 0.0733 + (0.0741 x **2.5**) = 0.0733 + 0.18525 **= .25855** (26 %)

Finally, calculate damages. Weeks 8 through 12 had more than the average number of workmen. During those weeks, a total of 4,800 manhours were worked. Multiply this times our Lost Efficiency percentage:

4,800	x	26 %	=	1,248
1,248	x	wage earned	=	damages
1,248	x	$30	=	**$37,440.00**

Tell me, where does the $37,000 in damages come from in this story? If there are any damages, who was at fault? And most importantly, was there any economic loss? Were workers who were otherwise going to be sent to other projects unexpectedly required during weeks 8 through 12, or were events like the mantle installation known all along? Even if workers were unexpectedly shifted from another project to this one, did the two week delay allow them to make up the difference by working elsewhere?

6. The Overmanning Theory is Contrary to Contract Law

As stated above under the Eichleay Formula analysis, it is indisputable that the goal of awarding damages in a breach of contract action is to compensate an injured party with the

equivalent of the benefits of contract performance.[15] This is called "expectation damages," and it is noticeably absent from the overmanning theory. The bottom line in construction projects is that the owner wants a building and the contractor wants money. Did the contractor make less money on this project because of overmanning? We don't know! The overmanning formula never asserts a quantifiable economic loss vis-a-vis its anticipated profit, only that the workers provided were somehow less efficient.

Further, damages after breach of contract are limited to those that naturally flow from the breach and which might have been reasonably contemplated and foreseen by both parties at the time of contract formation.[16] This fundamental principle of contract damages is based upon the idea that a party does not and cannot assume limitless responsibility for all consequences of a breach. At the time of contracting, a party must be advised of the facts concerning special harm that might result therefrom, in order that the party may determine whether or not to accept the risk of contracting.[17]

The overmanning theory is in essence an award of special damages after the breach of a contract, contrary to over a century of rudimentary contract law.[18] A contractor's need to staff a job site at uneven levels over the course of a project – at levels even more unbalanced than the natural flow of a project – is entirely unknown and not reasonably foreseeable by the owner at the time of contract formation. This asymmetry of information should preclude recovery by contractors under the overmanning theory as a matter of law.

7. There is No Undermanning Compensation

On days where fewer-than-average workers were present on a job site, is the project owner entitled to a refund?

8. Why Do Additional Workers Make *All* Workers on a Site Less Efficient?

There is no justification for the application of the Lost Efficiency Equation to the entire crew and not only to the craftsmen who were not originally supposed to be there. It is illogical

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[15]*See, e.g.*, Civ. Code § 3300; *Christensen v. Slawter* (1959) 173 Cal.App.2d 325, 330; 1 Witkin, Summary of Cal. Law, 10th ed. Contracts § 869, p. 956.

[16]*See, e.g.*, *Hadley v. Baxendale* (1854) 9 Ex. 341, 156 Eng. Rep. R. 145; *Coughlin v. Blair* (1953) 41 Cal.2d 587, 603; 1 Witkin, Summary of Cal. Law, 10th ed. Contracts § 871, p. 957.

[17]*Martin v. U-Haul, Co. of Fresno* (1988) 204 Cal.App.3d 396, 409; *quoting Brandon & Tibbs v. George Kevorkian Accountancy Corp.* (1990) 226 Cal.App.3d 396, 409.

[18]*See, e.g.*, *Martin v. U-Haul, Co. of Fresno* (1988) 204 Cal.App.3d 396, 409; 1 Witkin, Summary of Cal. Law, 10th ed. Contracts § 871, p. 957.

that the presence of just *one* too many men during weeks 35 through 71 of our original hypothetical made *everyone* 24% less useful.

Thus, if a public entity is interested in bargaining with a contractor who asserts an overmanning theory rather than simply rejecting it outright, a simple way would be to alter the number of manhours to which the Lost Efficiency Equation gets applied. In our hypothetical, this would result in a significant reduction of $150,000, bringing our contractor's claim to only $90,000. Instead of to 20,000 manhours, the Lost Efficiency Equation is applied only to the manhours *above and beyond the average (optimal)* numbers of manhours:

Formerly:

20,000 mh	x	.24 LE%	=	4,800 hours lost	
4,800	x	wage earned	=	damages	
4,800	x	$50.00	=	$240,000	- Original Claim -

Revised:

7,500 mh	x	.24 LE%	=	1,800 hours lost	
1,800	x	wage earned	=	damages	
1,800	x	$50.00	=	$90,000	- Settlement Amount -

This is a significant savings for owners who, perhaps for political or long-term business reasons, do not want to reject an overmanning claim outright.

9. Overmanning is a Recent Creation and Appears Largely Fictional

Finally, it is worth noting that not a single published case in any state or federal court has the word "overmanning" in it. Further, there are but a few references to overmanning in a worldwide Google search. The only documents that appear are from construction industry seminars and lobbying newspapers.

In sum, overmanning is the creation of claims administrators and plaintiffs attorneys looking for new ways to fleece public entities. No actual harm has been shown through overmanning, and my guess is most contractors learn of their overmanning "problem" only after receiving their claim analyses back from their claims administrator or lawyer.

D. The Solution

Similar to public entities' problems with Eichleay, entities must expressly disallow reliance on any overmanning theory in a claim. The insertion of the following contractual language should greatly advantage entities in both litigation and pre-litigation negotiations:

> In the event of a [Public Entity]-caused delay in the commencement or progress of Project, Contractor shall only be entitled to recover losses actually incurred as a direct and proximate result of the delay. [Public Entity] will compensate Contractor for the expenses incurred for employees and equipment mobilized to Project Site and – at the Determination of [Public Entity] – unable to be reasonably reassigned to other Contractor work. In no event shall Contractor be compensated for any delay if the delay was announced in writing to Contractor 30 or more days before delay began, as such early announcement will constitute an automatic conclusion that all Contractor employees and equipment could have reasonably been reassigned to other Contractor work or cancelled.
>
> [Public Entity] will not compensate Contractor for damages based on theories of lost work efficiency. [Public Entity] will only compensate Contractor for losses directly attributable to Project for [Public Entity]-caused delay. No formula such as the Overmanning Formula, Lost Efficiency Equation, or any of their modifications based upon Project's average daily workers and/or peak number of workers will be used. Because daily staffing choices are set by the Contractor and are unknown to [Public Entity] at the time of Contract formation, they are considered special damages and outside the proximate and natural result of Project delay.

As stated above, adding this language to contracts will address novel theories of recovery head on rather than through protracted litigation. As always, the best defense to fraudulent theory of recovery if never to have the claim presented at all.

IV. CONCLUSION

The strict public bidding requirements that public entities must follow were designed to serve the legislative objectives of "eliminating favoritism, fraud, and corruption in the awarding of public contracts." [19] Accordingly, public entities must award contracts to the lowest qualified bidder.[20] As the recent economic downturn has forced contractors into the public arena in search of work, many exit the job site with hat in hand. Public entities must protect taxpayer's money and remain steadfast in their rejection of false claims. Recent false claims have taken on new forms, and the Eichleay Formula and the Overmanning Theory are just two. Public entities should remain weary of never-before-seen, complicated formulas asserting damages. Above all, public entities should be proactive and contract around their exposure to such claims. With a little foresight and bit of luck, public entities may be able to pass to savings of avoided litigation onto all California citizens.

[19] *Amelco v. City of Thousand Oaks* (2002) 27 Cal.4th 228, 240.

[20] Pub. Cont. Code § 6109, *et. seq*.