

## Risk Management and Legal Liability Issues for Engineers

Arthur Schwartz,  
NSPE Deputy Executive Director  
and  
General Counsel

## Risk Management Issue for Engineers

- Preliminary Comments
  - US Construction Industry
    - +\$.5 trillion dollars
    - 10% of the US economy
    - Investments – resources allocated in the present in anticipation of favorable outcomes in an uncertain future
    - Parties involved in projects – owners, developers, engineers, architects, contractors, subcontractors, suppliers, manufacturers, etc.
    - Varying project delivery systems
    - Inherent risk

## Risk Management Issue for Engineers

- We will:
  - Define "risk"
  - Define "risk management"
  - Identify principle sources of risk that commonly affect projects
  - Explain how risk assessment requires consideration of frequency and severity
  - Options in responding to risk
  - Role of insurance
  - Role of contracts – indemnity and liability limitations
  - Principles of comprehensive risk management program

## Risk Management Issue for Engineers

- What is risk:
  - "possibility of loss or injury" or "probability of an unfavorable outcome"
  - What is considered unfavorable is relative to what is expected
  - What is considered favorable to one party (e.g., profit) may be unfavorable to another party (cost)
  - Need for a reasonable integration of stakeholder objectives during the course of the project – e.g., contracts that fairly allocate risk and reward

## Risk Management Issue for Engineers

- Risk Management – "the process of minimizing the probability and severity of an unfavorable outcome at the lowest long term cost to the organization."
- Risk Management involves:
  - risk analysis
  - risk response
  - risk control

## Risk Management Issue for Engineers

- Risk Analysis: a problem-seeking activity
  - identifying the sources of risk applicable to the project;
  - assessing their probable impact on the project;
  - creating a "short list" of more problematic sources of risk for specific response.

**Risk Management Issue for Engineers**

- Sources of Risk:
  - **Nature of the project:** including the relationships among program, site, schedule and budget; the political profile of the project in the community; the laws and regulations applicable to the project; and the project type.

**Risk Management Issue for Engineers**

- Sources of Risk:
  - **The engineer’s professional capabilities and experience:** including business and professional licensing; whether the firm is experienced with the project type and has the staff and consultants available to perform the services in accordance with the project schedule.

**Risk Management Issue for Engineers**

- Sources of Risk:
  - **The characteristics of the client:** including whether the client is a public entity or a private firm or individual; the client’s track record with this or other types of projects; the availability and adequacy of funding for the project; and the client’s general attitude toward professional services, including the method of compensation and litigation or claims history.

**Risk Management Issue for Engineers**

- Sources of Risk:
  - **The method of project delivery:** including whether construction contracts will be bid (by open bidding or invitation to a select list of bidders); whether there will be one general contractor or a construction manager with multiple prime contractors; and whether the construction documents will be completed before the start of construction or will be completed in stages while construction proceeds (fast track).

**Risk Management Issue for Engineers**

- Sources of Risk:
  - **The type of contracts for design and for construction:** including whether the architect/engineer’s contract with the owner is prepared on a standard industry form (e.g., EJCDC or AIA); whether the owner will hire multiple prime design professionals for the various disciplines of service, the methods for compensating the design professionals (e.g., QBS, etc.) the form of construction contracts and general conditions (e.g, standard or customized) and whether the contractor will be compensated on a lump sum or cost-reimbursable basis.

**Risk Management Issue for Engineers**

- Sources of Risk:
  - **Construction industry and related influences:** including the bidding climate and familiarity of the available contractors with project of similar size, scope and complexity; custom and practice within the region of the country; current financial climate impacting on the broader economy.

### Risk Management Issue for Engineers

- Sources of Risk:
  - **Other time and cost constraints:** including whether adequate time and compensation are available to perform professional services appropriately.

### Risk Management Issue for Engineers

- Assessing the Risk:
  - “Possible” vs “Probable” (e.g., remote vs likely, serious)
  - If “probable”, consider “severity” (e.g., infrequent but severe/catastrophic; frequent but of minor consequences)\
  - Magnitude of the risk = probability of an unfavorable outcome x the severity of the consequences of that outcome.

### Risk Management Issue for Engineers

- Assessing the Risk:
  - How much authority does the engineer have to control the risk?
  - Responsibility and authority must go hand in hand;
  - Responsibility w/o authority = Problem

### Risk Management Issue for Engineers

- Risk Response:
  - 1. Retain/Mitigate the Risk
  - 2. Transfer Risk
  - 3. Avoid Risk

### Risk Management Issue for Engineers

- Risk Response #1:
  - Retain/Mitigate the Risk? Consider....
    - What benefits are available to make it reasonable to accept this risk? (Compensation = Value Added + Risk ?)
    - What standards will be applied to judge the engineer's performance? (standard of care – “reasonableness”, “highest standard of care”, strict liability”)
    - Is the situation one where the engineer is responsible for performance or for some outcome for which others are simultaneously responsible (e.g., overlapping responsibility with the contractor for quality, safety, etc.) – “when everyone is in charge, no one is in charge...”

### Risk Management Issue for Engineers

- Risk Response:
  - Retain/Mitigate the Risk? Consider....
    - If the business decision is made to retain the risk, has the firm made financial provisions should an adverse event result? (set-aside fund, self insurance, etc.)
    - Are there steps that can be taken to mitigate the risk retained? (sound contracts, appropriate, experienced and competent staff, quality management (QC/QC) procedures (regular reviews/checking), greater involvement of principals/senior staff, strict client communications procedures, documentation procedures

### Risk Management Issue for Engineers

- Risk Response #2:
  - Transfer the Risk? Consider....
    - Transfer of risk via Insurance – Professional Liability Insurance (PL), Commercial General Liability Insurance (CGL)
      - PL Practice Policies – 1-3 year policies covering all projects the insured firm performs during the policy term;
      - PL Project Policies – written to cover a specific project and generally cover the entire design team for design services performed on that particular project;
      - CGL Insurance – written to cover bodily injury and property damage caused by insured's non-professional acts or failure to act

### Risk Management Issue for Engineers

- Risk Response #2:
  - Transfer the Risk? Consider....
    - Transfer the Risk via Contract
      - Risk is best born by the party best able to control the circumstances creating the risk and best able to insure against the risk (philosophy of EJCDC and AIA)
      - If party has the power and authority to carry out its duties and is fairly compensated those duties, it has the best opportunity to minimize the risks associated with those duties

### Risk Management Issue for Engineers

- Risk Response #2:
  - Transfer the Risk? Consider....
    - Transfer the Risk via Contract
      - In some cases, risks are not in clear control of any party and in such cases, the engineer should request that the client retain or assume an equitable amount of the risk.
      - Often in these cases, the actual risk is not that the engineer will be held liable for the risk that is not in clear control of any party
      - The actual risk is the potential for litigation, time and other resources spent in addressing, resolving defending in the dispute

### Risk Management Issue for Engineers

- Two common ways of addressing these problems are:
  - Indemnification
  - Limitation of Liability

### Risk Management Issue for Engineers

- Indemnification:
  - When one party agrees to pay for liabilities incurred by another party (e.g., contractor agrees to indemnify owner and engineer for liabilities arising out of bodily injury to worker on a site, the contractor agreeing to pay damages which the worker may be entitled to from owner or the engineer. Rationale – owner and engineer lack control over site.
  - Flipside – Indemnification sometime may be used to shift risk to the party with the weaker bargaining position, notwithstanding that party's ability to pay or control the risk – (e.g., public owners seeking indemnification from engineers for risks over which engineer cannot no control)

### Risk Management Issue for Engineers

- Limitation of Liability:
  - Limit liability of engineer to (a) the amount of compensation actually paid to the engineer; (b) the amount actually paid by insurance covering the matter; (3) a specific dollar amount; or (4) another agreed upon measure (e.g., correction of the work, etc.)

### Risk Management Issue for Engineers

- Important Points Regarding These Risk Transfer Mechanisms:
  - Enforceability of indemnification and limitation of liability provisions vary from state to state.
  - In some states, because these provisions (particularly limitation of liability provisions) considered waivers of legal rights, there must be a demonstration that they were freely negotiated, highlighted – e.g. **bolded/underlined/Printed in Larger Type, initialed/dated** by both parties and/or supported by additional consideration (\$\$\$).
  - Also, many state have anti-indemnity statutes that make certain indemnification provision (e.g., whereby a party seeks indemnification for its sole negligence) unenforceable.

### Risk Management Issue for Engineers

- Important Points Regarding These Risk Transfer Mechanisms:
  - Contractual provisions of this type are often frowned upon by the courts and deemed void as a matter of public policy.
  - EJCDC Standard Form of Agreement between Owner and Engineer for Professional Services (E500, 2008 Edition) contains model indemnification and limitation of liability provisions.
  - Before employing these provisions, involvement of legal and insurance counsel is strongly advised, since such provisions, if they become a bar to a party's recovery, are frequently subject to challenge.

### Risk Management Issue for Engineers

- Risk Response #3:
  - Avoid the Risk?
    - If retaining/mitigating or transferring the risk are not practical options, then avoiding the risk may be the only realistic option.
    - While passing up work is never easy, particularly in difficult economic times, statistics show that most claims against engineers are brought by clients (not contractors, 3<sup>rd</sup> parties, etc.) and so one of the best ways of avoiding claims is avoiding risky clients or risky projects (outside firm's experience, comfort zone, unpredictable scenarios)

### Risk Management Issue for Engineers

- Note:
  - During project execution and beyond, the engineer must analyze and respond to new sources of risk introduced to changed conditions or changes in the engineer's scope of services.

### Risk Management Issue for Engineers

“The essence of risk management lies in maximizing the areas where we have some control over the outcome while minimizing the areas where we have absolutely no control...”

-Peter L. Bernstein, “Against the Gods: The Remarkable Story of Risk”

### Risk Management Issue for Engineers

- Basic Risk Management Tips:
  - Engage in projects within engineers qualifications, experience and staffing;
  - Carefully select clients through “due diligence” inquiries of appropriate persons, including other engineers who have previously performed services for the same client;

### Risk Management Issue for Engineers

- Basic Risk Management Tips:
  - Provide training and regularly repeat training for firm personnel on contractual and risk management topics, including how to identify and deal with difficult client issue or risk-intensive situations;
  - Provide timely and effective problem identification, management, and resolution. Avoid a client complaint or potential liability problem will not cause the problem to go away and, in most situations, will increase the probability of an unfavorable outcome for the engineer.

### Risk Management Issue for Engineers

- Basic Risk Management Tips:
  - Although contractual risk allocation provisions, such as indemnification and limitation of liability may help to manage/control risk, contractual provisions are not the answer.
  - While insurance is an essential risk transfer mechanism, one cannot rely solely on insurance as the substitute for a comprehensive risk management program

### Risk Management Issue for Engineers

- Summary of Points:
  - Because the future cannot be known, projects are inherently risky and the management of that risk is an essential value-adding activity in any project undertaking;
  - Risk is the probability of an unfavorable outcome;
  - Risk management is the process of minimizing the probability and severity of an unfavorable outcome at the lowest long term cost to the organization;

### Risk Management Issue for Engineers

- Summary of Points:
  - The number of statistically significant sources or categories of risk is relatively small. They include: nature of the project, the engineers capabilities and experience, the characteristics of the client; the methods of project delivery; the types of contracts for design and construction; construction industry and related influences; custom and practice; time and cost constraints;

### Risk Management Issue for Engineers

- Summary of Points:
  - Risk events that are not very likely to occur but that will have catastrophic consequences require a different response from those that are more probable but of less consequences;
  - Among the risk management options available to engineers are: retaining and mitigating risk; transferring it wholly or partially to another party, or avoiding it completely;
  - Risk and reward are related, and the compensation obtained for services should be equivalent to the value added plus the risk associated with such services;

### Risk Management Issue for Engineers

- Summary of Points:
  - Engineers are obligated by law to perform their services with normal professional skill and care (e.g., non-negligently) and should carefully evaluate attempts to impose greater liability through contract language;
  - Risk that is retained should be mitigated through appropriate staffing and practice management procedures;

### Risk Management Issue for Engineers

- Summary of Points:
  - Certain types of risk can be transferred to an insurer in exchange for the payment of premiums;
  - Two common ways of ways of transferring risk via contract are through indemnification and limitation of liability provisions;
  - Indemnification provisions commit one party to be financially responsible for liabilities incurred by another party;

### Risk Management Issue for Engineers

- Summary of Points:
  - Limitation of liability provisions limit the amount of damage that one party may seek from another for specific acts or failures to act;
  - If an engineer cannot effectively retain and mitigate a risk or transfer the risk via insurance or contract, the risk should probably be avoided-even if that means passing up the project;

### Risk Management Issue for Engineers

- Summary of Points:
  - During project execution, the engineer must analyze and respond to new sources of risk introduced to changed conditions or changes in the engineer's scope of services.
  - Maintaining open and frequent communications and promptly responding to problems during project execution is essential to effective control of risk;

### Risk Management Issue for Engineers

- Closing Points:
  - Over the past twenty years, engineers have dramatically reduced record high professional liability claims frequency by learning to manage risk pro-actively.
  - As the manner in which engineering is practiced changes (e.g., design/build, building information modeling, single purpose entity, etc.) there will continue to be new risks and engineers need to continue to adapt in order to appropriate manage their risks.

### Risk Management Issue for Engineers

- Questions and Discussion
- Break

### Legal Liability Issue for Engineers

- Preliminary Comments
  - US Civil/Criminal Justice System
  - Legislative Process
  - Federal/State Courts
  - State Licensure Boards
  - Liability
    - Professional Responsibility/Disciplinary Actions
      - » Licensure censure, reprimand, suspension, or revocation, fines, etc.
    - Civil Liability – legal remedies (money damages), possible equitable remedies

## Legal Liability Issue for Engineers

- We will:
  - Define “professional liability”;
  - Identify and distinguish between the two theories of liability most applicable to engineers;
  - Understand the role of contracts in professional practice;
  - Describe the elements of a valid contract;
  - Explain what it means to be in breach of contract;
  - Define the professional standard of care;
  - List the elements of the tort of negligence and define each in the context of engineering professional practice;
  - Name and describe three intentional torts;

## Legal Liability Issue for Engineers

- We will:
  - Define strict liability and describe a situation where it might be applied to an engineer;
  - List the persons to whom an engineer might be liable in contract and in tort;
  - List the persons for whose actions an engineer might be liable;
  - Describe three basic categories of legal damages;
  - Describe five common defenses to professional liability claims against engineers
  - Identify the basic types of business organization and explain the liability implications of each.

## Legal Liability Issue for Engineers

- What is Legal Liability?
- In the context an engineer’s professional liability:
  - “Professional liability consists of those obligations that are or will be legally enforceable, and that arise out of the performance of, or failure to perform, professional services by the engineer.”

## Legal Liability Issue for Engineers

- Theories of Liability:
  - Contract liability
  - Tort liability

## Legal Liability Issue for Engineers

- Contracts
  - Why ?
    - Among all professionals, more important and prevalent between clients-engineers than between other professionals (e.g., patient-physicians, client-attorney, client-accountant)
    - Assist in communications
    - Establish goals and expectations between the parties
    - Allocate rights and responsibilities
    - Establish a process for future changes
    - Resolve/prevent disputes

## Legal Liability Issue for Engineers

- Elements of a Contract:
  - Mutual Assent
    - Offer and Acceptance – (e.g., contractor bid accepted by the owner; engineer proposal accepted by the owner)
  - Consideration
    - Bargained for exchange for something of legal value (e.g., money, “one peppercorn” theory, ceasing to perform some activity legally permitted to perform)
  - Legal Capacity
    - Age, not intoxicated, not mentally incapacitated, legally authorized (agents), doing business legally (licensed)
  - Legally Permissible Objective
    - Consistent with federal, state and local law (statutes and common law). Illegal contracts are void ab initio.

## Legal Liability Issue for Engineers

- Express or Implied Contracts
  - Express Contracts
    - May be written or oral
  - Implied Contracts
    - By virtue of the circumstances or the conduct of the parties
- Oral or Written Contracts
  - Oral Contracts
    - Legally enforceable but their existence and terms are difficult to prove
  - Written Contract
    - Statute of Frauds – Certain contracts **must** be in writing - e.g....
      - » Contact assuming the debts of another party
      - » Contracts for the sale of land
      - » Contracts that cannot be performed within one year

## Legal Liability Issue for Engineers

- Breach of Contract
  - When a valid contract is not performed substantially according to its terms, it is said to have been breached
    - Note: the failure must be substantial. A minor or technical deviation from the terms of the contract is not considered to be a breach of contract
    - If there is a substantial, unexcused deviation or failure to perform according to the terms of the contract, the breaching party will be liable under the law for that breach.

## Legal Liability Issue for Engineers

- Tort Liability:
  - A tort is an actionable civil wrong (e.g., violation of the personal, business or property interests of private citizens for which there is a civil law remedy).
  - Three types of torts:
    - Intentional Torts
    - Strict Liability Torts
    - Negligent Torts

## Legal Liability Issue for Engineers

- Intentional Torts –
  - Breach of duty committed with intent. Examples applicable to engineers include:
    - Intentional misrepresentation
    - Defamation
    - Intentional interference with a contractual or business relationship

## Legal Liability Issue for Engineers

- Intentional Misrepresentation:
  - When someone states something as a fact, not as an opinion, that he or she knows is false, to induce another or entity to rely on that false statement, and the other party does so to its detriment.
  - Example: Engineer intentionally provides client with incorrect data about the projected performance of a new design for a processing facility so that the engineer will be awarded the commission.

## Legal Liability Issue for Engineers

- Defamation:
  - Through written (libel) or spoken words (slander) communicated as fact and not opinion, a person or business entity is held up to scorn or ridicule in the eyes of respectable members of the community.
  - Example: Engineer is being interviewed by a local newspaper and criticizes the quality of the work of a construction contractor on a recent project.
  - Note: Truth is a defense, but it must be proven.

### Legal Liability Issue for Engineers

- Intentional interference with a contractual or business relationship
  - Intentionally encouraging a party to terminate an existing business relationship with another party.
  - Example: Engineer intentionally encourages client to terminate its contractual relationship with another engineering firm and hire Engineer.
  - Okay to promote/market engineering services for future projects.

### Legal Liability Issue for Engineers

- Strict Liability Tort:
  - Liability without fault
  - Generally applied to manufacturers of products and also inherently dangerous activities (e.g., explosives, hazardous materials)
  - Important that contracts and other client communications that engineers “provide a service” (and do not provide a product).

### Legal Liability Issue for Engineers

- Negligence
  - Elements:
    - The existence of a duty (Duty);
    - Breach or violation of that duty (Breach);
    - Evidence that the breach was the proximate causation of the alleged injury (Causation);
    - Measurable damages (Damages)

### Legal Liability Issue for Engineers

- Negligence
  - Duty:
    - Definition: obligation to do something or refrain from doing something;
    - Sources of Duty (contracts, codes, standard, PE licensing law, ongoing course of conduct, etc.)
    - **Standard of Care:** Engineer is required to act as competently as is reasonably expected of other professionals practicing under substantially similar circumstances in substantially similar communities.
    - Perfection is not required.

### Legal Liability Issue for Engineers

- Negligence
  - Breach of Duty
    - Proven by testimony of expert witness (e.g., another engineer) to educate the court and jury on the level of skill and care that is common and appropriate to the particular situation.
    - Expert witness testimony generally required to establish negligence but not always in breach of contract cases since in most cases a jury is presumed to understand whether a contract has been breached

### Legal Liability Issue for Engineers

- Negligence
  - Causation
    - Sufficient causal connection between the breach and the injury. Both actual and legal causation must be present.
    - Actual causation - But for the breach, would the injury have occurred?
    - Legal causation – The breach or substandard performance must be closely related to the injury and is not merely linked by a long chain of intervening events/occurrences
    - Example – Engineer’s calculation error and subsequent beam collapse. Question: Did the beam collapse because of the engineer’s calculation error, or was there some other intervening or superseding cause of the collapse (e.g., live load caused by contractor, soil conditions, weather conditions, etc.).

## Legal Liability Issue for Engineers

- Negligence
  - Damages
    - There must be some injury that the law can remedy.
    - Not all injuries can be remedied by the court
    - Must provide actual damages
      - Destruction of property
      - Economic harm
      - Bodily injury/death
      - Consequential/economic damages (Economic Loss Doctrine)
      - Punitive damages

## Legal Liability Issue for Engineers

- To Whom are Engineers Liable?
  - Liability in Contract:
    - A person or business entity to whom a promise was made is entitled to enforce the promise.
    - An engineer will be liable to the parties to with whom they contract if they fail substantially to do what they promise to do in the contract.
    - Most frequently it is the client who sues the engineer for breach of contract.
    - Other consultants hired by the prime engineer may also sue on this theory of liability in contract.
    - Sometimes contractors sue the prime engineer even though they do not have a contract with the prime engineer under the theory of third party beneficiary.

## Legal Liability Issue for Engineers

- To Whom are Engineers Liable?
  - Liability in Tort:
    - The number of individuals and entities to whom an engineer may be liable in tort is of indefinite length.
    - Engineers can expect to be liable in tort to anyone to whom they owed a duty to act with reasonable professional skill and care.
    - Courts look to the terms of contract, statutes, codes, standards, custom and practice, etc., to determine whether an engineer assumed such a duty.
    - Courts also consider whether it was reasonably foreseeable that the individuals or entities would be injured if the engineer did not act with due skill and care.

## Legal Liability Issue for Engineers

- To Whom are Engineers Liable?
  - Liability in Tort:
    - Potential claimants include clients, members of the public who use or come into contact with a construction project, construction contractors, subcontractors, construction laborers, lenders, insurers, sureties, etc.
    - Engineers need to develop the ability to assess the likelihood that someone could be harmed by their actions/inactions and take steps to prevent/mitigate that harm.

## Legal Liability Issue for Engineers

- To Whom are Engineers Liable?
  - Liability in Tort:
    - Subrogation: a concept that allows a party (e.g., insurer) who has paid a claim to "step into the shoes" of the party whose claim was paid and sue the offending party.
    - Example: Engineer negligently specifies a foundation design that results in a structural failure. Owner files a claim with its property insurance carrier. Owner's claim is subrogated to the property insurance carrier. Property insurance carrier sues engineer for negligence.
    - Note: Under EJDC documents, since parties pay insurance premiums for insurance coverage, documents contain a "mutual waiver of subrogation" to prevent subrogation claims.

## Legal Liability Issue for Engineers

- For Whom are Engineers Liable?
  - Engineers are liable for their personal actions;
  - Engineers are liable for actions of others under specific circumstances:
    - Employers are liable for actions/failure to act by their employees if such activity was in the normal course of their employees' duties on behalf of the company ("respondeat superior").
    - "Moonlighting" situation – if the employer knew about the employees moonlighting, employee uses employer's equipment, tools, materials, telephone calls at the office, etc., engineer/employer could be liable for employee's negligence.

## Legal Liability Issue for Engineers

- For Whom are Engineers Liable?
  - Engineers are liable for actions of others under specific circumstances:
    - Engineers are liable for professional errors/omissions of consultants they hire or those they assume responsibility by contract – Prime engineer responsible for sub-consultants – contractual liability.
    - Engineers are liable for the acts/omissions of their partners/joint venturers (e.g., 50/50, 60/40, etc. is strictly internal).
    - Joint and several liability generally applies so it is critical to be aware of and familiar with your partner's financial ability to respond in the event of a claim.

## Legal Liability Issue for Engineers

- For What Damages are Engineers Liable?
  - Three categories of damages:
    - Direct Damages
    - Consequential Damages
    - Statutory Damages
  - Direct Damages:
    - Damage must be a direct result of the proscribed actions or failure to act.
    - Examples: Bodily injury to, or wrongful death of a person, damage to property

## Legal Liability Issue for Engineers

- For What Damages are Engineers Liable?
  - Consequential Damages:
    - Do not directly or immediately result from particular actions or failure to act.
    - They depend on intervening circumstances.
    - They must be a reasonably foreseeable result of an activity.
    - Examples: economic losses such as lost profits due to delays caused by design errors.

## Legal Liability Issue for Engineers

- For What Damages are Engineers Liable?
  - Statutory Damages:
    - Those that are prescribed by the language in a statute.
    - May be awarded regardless of whether a party suffers damages.
    - Examples: Copyright law violation.
  - Notes on Damages:
    - Direct Damages and Consequential Damages together are referred to as compensatory damages or actual damages and are intended to fully compensate an injured party for the injury sustained.
    - They are not intended to compensate an injured party for more than its actual loss.

## Legal Liability Issue for Engineers

- Brief Overview of Tort and Contract Law in the US:
  - About 40 years ago, the general rule was that a party could not sue another party unless the two parties had a contract (e.g., privity of contract).
  - Today, with a few exceptions, "privity of contract is no longer a limitation on the ability of one party (individual or business entity) to sue another party for negligence.
  - Therefore, if an engineer's actions or failure to act causes damages to the property of another party, whether or not the party has a contract with the engineer, the engineer will be liable under tort law for damages.

## Legal Liability Issue for Engineers

- Brief Overview of Tort and Contract Law in the US:
  - Contract law is intended to promote commercial market efficiency.
  - The parties negotiate/allocate risks and rewards in their contracts and the courts should protect their economic expectations.
  - Therefore consequential damages are generally not available in breach of contract cases because it is assumed that the parties themselves negotiated and allocated risks/rewards under the specific terms of the contract.

## Legal Liability Issue for Engineers

- Brief Overview of Tort and Contract Law in the US:
  - Overlap between tort and contract law under the "Economic Loss Rule":
    - Economic Loss Rule: A party not in privity of contract may not sue in tort for purely economic loss
    - Example: Under a design/bid/build scenario, a contractor may not sue an engineer for negligence for purely economic losses (e.g., which caused delays, added expenses, lost profits).
    - Rationale: To permit the contractor to sue under these circumstances would disrupt the allocation of risk that the owner, engineer and contractor had negotiated in their agreements and permit the contractor to achieve a result than it would have otherwise been able to negotiate.
    - Application of the "Economic Loss Rule" varies from state to state

## Legal Liability Issue for Engineers

- Defenses to Liability Claims?
  - Statute of Limitations
  - Statute of Repose
  - Comparative Negligence
  - Contributory Negligence
  - Betterment
  - Immunity

## Legal Liability Issue for Engineers

- Defenses to Liability Claims
  - Statute of Limitations
    - Provides that once a legal claim accrues to a party, that party has only a specific period of time to sue.
    - Accrual occurs when a party has reasonable notice of facts that would justify legal action against someone for damages.
    - All states have statutes of limitation for contracts and negligence but the number of years varies from state to state.
    - Example – statute of limitations for breach of contract claim - 6 years from accrual; statute of limitations for negligence claim - 3 years from date of discovery.

## Legal Liability Issue for Engineers

- Defenses to Liability Claims
  - Statute of Repose
    - Time period begins to run from the occurrence of some fixed event (e.g., substantial completion)
    - Example: All claims for negligence in the design and construction of an improvement to real property must be made within 6 years of the date the improvement was placed into service (date of substantial completion), regardless of when such negligence was discovered.
    - Rationale: Once a project has been completed for a certain span of years, factors such as maintenance, control by owner, lack of access by engineer and contractor make it unfair to expose the engineer and contractor to liability
    - Note: Some courts have upheld a contractually established period of repose that is shorter than the statutory length.

## Legal Liability Issue for Engineers

- Defenses to Liability Claims
  - Comparative Negligence
    - An alternative to joint/several liability
    - In a pure comparative negligence state, if a client sues the engineer and the client is also partially negligent, the engineer is only liable for the engineer's comparative fault (e.g., percentage of fault)
    - In a modified comparative negligence state, under the same facts, if the client is more than 50% at fault, the client cannot recover
    - Depending on the statute, depending on the number of parties sued, some modified comparative negligence statutes do not permit the client to recover from a party if the client's negligence is greater than that the party being sued.

## Legal Liability Issue for Engineers

- Defenses to Liability Claims
  - Contributory Negligence
    - A few states still maintain the doctrine of contributory negligence.
    - If a plaintiff contributed in any way to his/her negligence, the plaintiff is barred from recovery.
    - Because of the relative harshness of this doctrine, the majority of states have replaced contributory negligence with comparative negligence.

## Legal Liability Issue for Engineers

- Defenses to Liability Claims
  - Betterment
    - Occurs when a party is compensated for more than its loss.
    - Example: Engineer omits a piece of equipment in the specifications and the equipment was not included in the contractor's construction contract price.
    - When discovered a change order is issued for the cost of the equipment.
    - If Owner could recover the full cost of the equipment from the Engineer, the Owner would be receiving for free what the Owner would have had to pay for had the omission not been made (betterment)
    - In most cases, because of the omission by the Engineer, the Engineer would be responsible for any additional costs (labor, increased cost of equipment, remedial work, etc.).

## Legal Liability Issue for Engineers

- Defenses to Liability Claims
  - Immunity
    - Initial decision maker in disputes between the Owner and the Contractor (EJCDC E500 and C700 and American Arbitration Association Construction Industry Arbitration Rules).
    - Rationale: Seek to resolve disputes quickly and at the lowest level before the conflict grows.
    - Engineer should not fear liability for defamation or interference with business relationships, etc.

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Three basic forms:
    - Sole proprietorship
    - Partnership
    - Corporation

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Sole proprietorship:
    - Business owned by one person
    - May or may not be employees
    - No distinction between the business and the personal assets of the sole proprietor
    - If the sole proprietorship becomes liable for damages due to either business or professional activities, all of the sole proprietor's personal assets are potentially available to satisfy the judgment.

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Sole proprietorship:
    - If assets are placed in trust for the benefit of children or are titled in a spouse's name, they are not the sole proprietor's property and are not available to creditors.
    - Advice of an attorney is advised.

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Partnership:
    - Formed when two or more people agree together to undertake business activities.
    - All partners are jointly and severally liable for obligations of the partnership.
    - All personal property of the partners is potentially available to satisfy the judgment against the partnership.

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Partnership:
    - Main difference with sole proprietorship is that not only can one's own acts or failure to act can place all personal assets at risk but one's partner's acts conducted in furtherance of the partnership can place all of one's personal assets at risk.
    - Note: A "Joint Venture" is a partnership limited to a particular project or specific undertaking.

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Corporations:
    - Legal entities in and of themselves
    - Distinct from the people who own and run them
    - **Professional Corporations** – all shares of the ownership (or a minimum percentage of the corporation shares) must be owned by a licensed professional (laws vary from state to state – PE, RA, LS or some combination, etc.)

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Corporations:
    - **Business Corporations** – shares may be owned by non-licensed persons.
    - Not all states permit general business corporations to provide professional services.
    - Even when they are permitted to offer professional services, there is generally a requirement that (1) a majority of the shares of ownership be owned by a licensed design professional and/or that the design services be performed under the direct control and personal supervision of a licensed design professional.

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Corporations:
    - **Business Corporations:**
      - Both professional and business corporations can be either "C" corporations or "S" corporations. These are IRS designations and only determine the corporation's tax treatment and have no bearing on liability issues.
      - Owners of a corporation are generally not personally liable for acts or failures to act by the corporation.
      - Owners only stand to lose the value of the stock they own in the corporation (e.g., if a large claim or liability affects the corporation's financial worth)
      - If insurance and the corporate assets are inadequate to satisfy the corporation's liability obligations, claimants generally have no right to pursue the personal assets of the individual shareholders.

## Legal Liability Issue for Engineers

- Business Form and Liability
  - Corporations:
    - **Business Corporations**
      - The corporate liability shield only applies to business liability and not professional liability.
      - Since only individuals are tested, qualified and licensed to practice engineering, those licensed individuals cannot escape liability for their personal actions or failures to act.
      - Corporations provide more protection than partnerships because the actions of one owner (shareholder) does not place the personal assets of other non-involved owners (shareholders) at risk.
      - In some cases, the courts will "pierce the corporate veil" and invalidate the corporate shield if the corporation does not follow the legal formalities and acts like a partnership or sole proprietorship (e.g., failure to elect officers, conduct meetings of the board of directors, maintain records, issue annual reports, misrepresentation, etc.)

## Legal Liability Issue for Engineers

- Summary of Points:
  - Professional liability consists of those obligations that are or will be legally enforceable and arise out of the performance or failure to perform professional services by the engineer.
  - Professional services contracts allow the parties to state their goals and expectations, anticipate future changes, prevent disputes, and resolve disputes that do occur.
  - Elements of a legally enforceable contracts are 1) mutual assent, 2) consideration, 3) legal capacity and 4) a legally permissible objective.

## Legal Liability Issue for Engineers

- Summary of Points:
  - Valid contracts are either 1) express or 2) implied. When parties speak or write the elements to which they have assented, the contract is express. When the conduct of the parties demonstrates their intent, the contract is implied.
  - Breach of contract occurs when there is a substantial, unexcused deviation or failure to perform according to the terms of the contract.
  - Torts are civil wrongs involving violations of personal, business or property interests of private citizens. They are similar to criminal actions, which violates interests of the general public.

## Legal Liability Issue for Engineers

- Summary of Points:
  - Four legally required elements comprise the tort of negligence – 1) duty, 2) breach of duty, 3) causation and 4) damages.
  - An engineer is negligent when the engineer fails to act prudently and carefully as other reasonable engineers would have acted under the same or substantially similar circumstances. This is the professional standard of care.
  - Professional duties may arise out of contractual agreement, codes and standards, professional licensing laws and the conduct of the parties.

## Legal Liability Issue for Engineers

- Summary of Points:
  - Expert testimony by a qualified (usually) licensed professional is necessary to establish that substandard performance occurred in each specified case.
  - Intentional torts involve actions committed by an individual or firm. Those pertinent to engineers are 1) intentional misrepresentation 2) defamation and 3) intentional interference with contractual or business relationships.
  - Expressions of professional opinions are not misrepresentations and are not torts. Nevertheless, engineer should be circumspect in voicing opinions about the qualifications and performance of contractors and others.

## Legal Liability Issue for Engineers

- Summary of Points:
  - Strict liability is liability without fault. It is not generally applicable to engineers who provide services and do not do construction work, conduct ultra-hazardous activities or sell products.
  - Engineers may be liable to parties with whom they have a contract as well as those that intended beneficiaries of such contracts.
  - Engineers may also be liable under tort law to anyone who it was reasonable to foresee would be injured if the engineer did not exercise due care and diligence in performing professional services.

## Legal Liability Issue for Engineers

- Summary of Points:
  - Subrogation is a concept that allows an insurer who has paid a claim to step into the shoes of the original injured party to recover from the party who caused the damages. A waiver of subrogation eliminates that right and can minimize costly and time consuming litigation.
  - Engineers are vicariously liable for the actions of their employees (for work performed within the scope of their employment) as well as for actions of their partners and co-venturers in joint venture arrangements.
  - When two or more firms or individuals are jointly and severally liable to an injured party, that party can recover the full amount of allowable damages from any of those found liable, or from all of them, in whatever proportion is possible. Arrangements between the liable parties to share potential liability in some ratio is not binding on the injured/suing party.

## Legal Liability Issue for Engineers

- Summary of Points:
  - Engineers may be liable for 1) direct damages, 2) consequential damages and 3) statutory damages. Damages that are recoverable in any specific case depend on the applicable legal theory of liability. Consequential damages are most often associated with tort law.
  - Statutes of limitation and statutes of repose provide defenses to professional liability claims. Statutes of limitations preclude filing of claims beyond some number of years after the claim accrues. Statutes of repose do the same based upon the passage of time after a specific event, such as substantial completion of the project.

## Legal Liability Issue for Engineers

- Summary of Points:
  - In most states, the defense of contributory negligence has been replaced with comparative negligence. If principles of comparative negligence apply, a party will only be liable for that percentage of the total allowable damages that is equivalent to its portion of liability as compared to that of other parties.
  - Engineers are not responsible for “betterment” of a project. That means that when an owner is damaged as a result of an engineer’s error or omission, the owner’s economic position or the project should not be improved beyond what it would have been if no error or omission had occurred.

## Legal Liability Issue for Engineers

- Summary of Points:
  - Engineers are often granted immunity from the consequences of their good faith actions in deciding disputes between the owner and the contractor.
  - Different forms of business organization affect the liability exposure of owners. Professional liability is always personal, and there is no shield to liability for personal professional negligence. Nor is there any shield from business or professional liability for sole proprietors and partners in a partnership for damages that result from business or professional activities.
  - In corporations, stockholders may have a shield to liability that results from another stockholder’s actions or failures to act that do not involve them personally.

## Legal Liability Issue for Engineers

Questions

Summary and Conclusions

Thank You !!!