

Studying this module should enable you to:

1. Define “risk.”
2. Define “risk management.”
3. Identify the principal sources of risk that commonly affect projects.
4. Explain how assessment of risk requires consideration of both probability of occurrence and severity of consequences.
5. List the options available to design professionals in responding to risk.
6. Describe the role of insurance in risk transfer.
7. Describe the role of contracts in risk transfer.
8. Compare and contrast “indemnification” and “limitation of liability” as methods for the allocation or transfer of risk.
9. List the basic principles that should be incorporated in a comprehensive risk management program.

Concepts in Risk Management



All projects are investments—
resources are allocated despite
uncertainty in anticipation of a
favorable outcome.

Investment in design and construction services in the United States is currently approaching \$1 trillion annually or nearly ten percent of the nation's gross domestic product. Worldwide, this number is multiplied many times over. All of these design and construction services are delivered by thousands of design professionals, contractors, subcontractors, and suppliers through an organizational construct we call the *project*.

Although there are various project delivery methods, all projects are temporary, one-of-a-kind endeavors initiated to satisfy the objectives of a particular client—a road for transportation needs, a park for recreation needs, a treatment facility for potable water needs, or a sanctuary for spiritual needs. Also, regardless of how basic or lofty the needs served, all projects are, essentially, investments—resources are allocated in the present in anticipation of favorable outcomes in an uncertain future. Because the future cannot be known, projects are inherently risky, and the management of risk is an essential, value-adding activity in any project undertaking.

This module examines the methodology for managing risk, particularly professional liability risk, in the project environment. A number of basic concepts are introduced to facilitate understanding and the development of a realistic, project-centered perspective on risk management. These concepts will be further explained in subsequent modules.

WHAT IS RISK AND HOW DO WE MANAGE IT?

The 11th edition of *Webster's Collegiate Dictionary* defines risk as “possibility of loss or injury.” This definition reflects the most common way we view risk's potential materialization in a given situation—as a threat. However, for our purposes, we will define risk simply and broadly as the probability of an unfavorable outcome.

In considering the application of this definition in the project environment, two key corollaries can be recognized. First, what is considered unfavorable is relative to what is expected. Typically, stakeholder expectations—client, designer, contractor, lender—are formed at an early point in each

stakeholder's participation in the project and are often based on limited information or unfounded optimism. Unless the project delivery process incorporates mechanisms to specifically affect and refine stakeholder expectations throughout the course of the project, the gap between expectation and outcome will likely increase with the duration and complexity of the project. Second, what is considered favorable to one stakeholder, such as lower cost, may be considered unfavorable to another, such as lower profit or a loss. Unless there is a reasonable integration of stakeholder objectives, reflected in [contracts that fairly allocate risk and reward](#), the project delivery team may be a team in name only.

👉 Use Schinnerer's *Terms and Conditions Review Guide* for guidance in evaluating or drafting equitable contract provisions. Go to www.Schinnerer.com/risk-mgmt/Pages/Contract-review.aspx.

This discussion reflects the complexity involved in managing risk in the project environment and points to the need for design professionals and other project stakeholders to define and implement a rational process for risk taking. Fortunately, the conceptual framework for such a process exists, and a number of tools have been developed to support the rational allocation and management of risk in project delivery. Among the more important tools are the consensus-based contract forms developed by The American Institute of Architects (AIA) and the Engineers Joint Contract Documents Committee (EJCDC). The AIA and EJCDC contract forms will be referred to often in these *VEP* modules.

As is the case with risk, there is no single, correct definition for risk management. We choose to define risk management as the process of minimizing the probability and severity of an unfavorable outcome at the lowest long-term cost to the organization. This process involves three overlapping and often iterative steps: 1) risk analysis, 2) risk response, and 3) risk control. Each of these steps is briefly described in the following sections.

RISK ANALYSIS

Risk analysis is essentially a problem-seeking activity. It involves identifying the sources of risk applicable to the project, assessing their probable impact on the project, and

☞ For more information on industry trends, please see *From Risk to Profit: Benchmarking and Claims Studies*, as well as links to other benchmarking and claims information, at www.Schinnerer.com/risk-mgmt/Pages/Claim-studies.aspx.

☞ Use Schinnerer's *Risk Management Matrix* to help you assess potential risks for a given project. Go to www.Schinnerer.com/risk-mgmt/Pages/Practice-management.aspx.

☞ Please see Schinnerer's publications on various types of project delivery, including design-build and construction management. Go to www.Schinnerer.com/risk-mgmt/Pages/RM-homepage.aspx and look for your discipline or interest area.

creating a “short list” of the more **problematic sources of risk** ☞ in need of a specific response.

Sources of Risk

In theory, the sources of risk that could potentially impact a project are virtually infinite in number. In practice, the number of statistically significant sources of risk is relatively small. These sources will be discussed in greater detail in Module 1-4, “Evaluation of Projects and Clients.” Using our interactive **risk management matrix**, ☞ the primary sources of risk for most projects include:

- 1) **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 and other types of projects; the availability and adequacy of funding for the project; and the client's general attitude toward professional services, including the methods of compensation, litigation, and claims history.
- 2) **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.
- 3) **Use of consultants for professional services:** including the availability of qualified consultants; past experience with a particular consultant; the consultant's reputation; whether or not the consultant has adequate insurance; and client-selected and client-controlled consultants.
- 4) **Contractor and 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 (CM) with multiple prime contractors; the familiarity of the available contractors with projects of similar size, scope, and complexity; whether the construction documents will be completed before the start of construction or will be completed in stages while construction proceeds (fast track); and whether the project is completed via design-build or integrated design.
- 5) **Other parties:** including whether there will be a CM; whether

the CM's role has been adequately defined; whether the CM is sufficiently qualified to undertake this role; whether there are any special (e.g., geotechnical or abatement) consultants required; whether the design professional is accepting vicarious liability for these consultants; and if so, whether the design professional will be appropriately compensated and protected.

6) **Design professional's fee:** including whether the fee is adequate for the required services; whether the fee covers costs and provides a profit; and whether there are fee provisions for additional services.

7) **Design professional's capabilities and experience:** including business and professional licensing; and whether the firm is experienced with the project type and has the staff and consultants available to perform the services in line with the project schedule.

8) **Type of contracts for design and for construction:** including whether the design professional's contract with the client is prepared on a standard industry form (such as those published by the AIA or EJCDC); whether the client will hire multiple prime design professionals for the various disciplines of service; the method of compensating the design professionals; the form of construction contract and general conditions (whether standard or customized form); and whether the contractor will be compensated on a lump sum or cost-reimbursable basis.

Assessing the Risk

It is important to distinguish what is probable from what is merely possible. Trying to imagine and deal with all possible sources of risk can be paralyzing. Furthermore, a focus on the probable instead of the merely possible tends to focus the design professional on what is important to achieving a favorable project outcome. That approach is both more effective from a risk management perspective and better received by clients and other project participants.

Once the probable sources of risk have been identified, a

realistic assessment considers both the probability (frequency) and potential severity of a given risk event. For example, some problems may occur infrequently, but when they do, the results can be catastrophic. Other problems may occur frequently, but their occurrence is of relatively minor consequence. Intuitively, these situations deserve different responses. Under a given set of circumstances, the magnitude of risk is a function of the probability of an unfavorable outcome and the severity of the consequences of that outcome.

Finally, in assessing a given source of risk, the design professional should consider how much power or authority he will have to control that risk. For example, if a design professional is to observe the work of the contractor for general conformance with the requirements of the contract documents, he should be sufficiently compensated to perform the required services, and he must have the authority to gain access to the work whenever necessary to perform those services.

RISK RESPONSE

Among the risk management options available to design professionals are retaining and mitigating the risk, transferring it wholly or partially to another party, or avoiding it completely.

Retain and Mitigate the Risk

It is unrealistic for a design professional, or any other project stakeholder, to think that it is possible to avoid all risk. However, one can be prudent about the risk one retains. Design professionals should be able to answer the following questions:

1) **What benefits are available to make it reasonable to accept this risk?** Is the compensation being offered for the services to be provided equivalent to the value added plus the risk associated with the project? It is axiomatic that risk and reward should be seen as two sides of one coin. If the risk is great, the reward should be commensurately great. Too often, design professionals undertake to provide services in circumstances where risk is high yet the compensation is barely commensurate with the value added by the services without regard to the

associated risk. For example, some design professionals will provide very limited services simply to assist a client in obtaining a building permit. That can be a very valuable service, but may not be well compensated by the client since only a limited amount of time may be spent by the design professional. Later, the design professional may be implicated in a dispute that exposes him to liability out of proportion to the amount of service performed and compensation received. In the long run, a firm will not be able to sustain a profitable practice if the risk/reward ratio is out of balance.

2) What standards will be applied to judge the design

professional's performance? Generally, the law says that all professionals must perform their services with **normal professional skill and care, i.e., non-negligently**. However, if the client expects perfection, or the contract requires the “highest standard of care” (i.e., perfection), the design professional's exposure to liability may increase. Strict liability (i.e., liability without regard to fault or negligence) is a standard sometimes applicable to manufacturers of products or to those who perform inherently dangerous activities. If this standard were applied to design professionals, the results could be disastrous. After all, product manufacturers have an opportunity to control the construction of their products, and they generally test and redesign as necessary to work problems out of the design before introducing the product into the stream of commerce.

By contrast, design professionals generally do not design for repetitive manufacture and do not have an opportunity to control construction and debug the design. Most construction projects are one of a kind, designed as such, without the opportunity to test the completed construction and make design refinements. Accordingly, strict liability is not an appropriate standard to apply to design professionals. More will be said about negligence in the next module (1-2, “Legal Liability of Design Professionals”), but design professionals should think twice about accepting liability greater than that normally imposed by law.

👉 To read more about the professional standard of care, see Schinnerer's *Management Advisory*, “Standard of Care” under the “Legal” subhead at www.Schinnerer.com/risk-mgmt/Pages/Management-advisories.aspx.

3) Is the situation one where the design professional is responsible for performance or for some outcome for which others are simultaneously responsible? These situations are especially difficult because the overlap of responsibilities increases the risk that no one will see to the outcome, or even have the real power to do so. This frequently happens when a client imposes on the design professional responsibility for the quality of construction work, for safety procedures, or for any of the other activities that are, in fact, within the control of the contractor.

4) If the business decision is made to retain the risk, has the firm made financial provisions for the possibility of an adverse result? That may include a fund set aside to cover the potential financial consequence of a risk event, including defense costs, indemnity payments, and lost fees.

5) Are there steps that can be taken to mitigate the risk retained? Careful planning to mitigate the risk that has been identified and retained is good business. Frequently, the first step is to limit and define obligations by contract so that they are as clear and manageable as possible. Then, evaluate the particular skills or experience of the available staff to serve the project. If necessary, consider recruiting staff or adding a consultant to the team. Break the project down into smaller, more manageable pieces. Establish quality management procedures appropriate to the specific needs of the project. For example, in addition to the use of checklists and other quality control tools, such procedures may include the completion of an independent internal or external peer review of project deliverables to assess the likelihood that the deliverables would satisfy client objectives and conform with [good professional practice](#).

 A peer review is one of the six “best practices” criteria (three out of six are required) needed to qualify for Schinnerer and CNA’s risk mitigation credit for eligible firms. Go to www.Schinnerer.com/risk-mgmt/Pages/Tools-understanding-insurance.aspx for details.

In addition to appropriate quality management procedures, a particular client or project may require more time and attention from the firm’s principals and senior staff than is typical. Sometimes it is necessary to establish particularly strict or extensive procedures for communicating with the client and other design team members and then to document the substance of the communications. More extensive communications and documentation is often essential on complex projects with numerous stakeholders.

Over the past decade or so, there has been much written about “partnering.” Although the term seems to have a multitude of meanings, the substance is generally the same. Partnering in its many forms is about communicating and working together to anticipate, identify, and solve problems as quickly as possible. Partnering is an attitude: it requires a commitment on the part of all those involved with the project—clients, design professionals, and contractors—to work toward a successful project and avoid adversarial relationships. A “partnered” project can pay dividends to all participants by reducing the probability of disputes. However, partnering cannot be expected to undo the damage done by an inequitable or inappropriate allocation of risk among project participants.

TRANSFER THE RISK

Another option available for the management of risk is to transfer the risk, wholly or partially, to another party. Generally, risk is transferred via insurance or contract.

Transfer of Risk Via Insurance. Insurance exists to allow certain categories of risk to be transferred to the insurer. In return for payment of premiums, insurers agree to pay for damages that result from specific types of actions or failures to act by the insured. When considering insurance for professional liability risk, design professionals should understand that there are two basic types of professional liability insurance policies: practice policies and project policies.

Practice policies are typically written for one or three-year periods and cover all projects on which an insured firm performs services during the policy term. Project policies, on the other hand, are written to cover a specific project. They typically cover the whole design team for the services performed on that particular project. They have a definite period of coverage and a definite period during which alleged negligence by any of the insured firms or individuals can be reported to the insurer.

Design professionals, like all businesses, must also address

☞ For Schinnerer’s guide to understanding CGL coverage, go to www.Schinnerer.com/risk-mgmt/Pages/Tools-understanding-insurance.aspx.

☞ Use of a written contract is the baseline criterion needed to qualify for Schinnerer and CNA’s risk mitigation credit for eligible firms. Go to www.Schinnerer.com/risk-mgmt/Pages/Tools-understanding-insurance.aspx for details.

☞ For more information on standard contracts published by the AIA and EJCDC, go to www.aia.org or www.ejcdc.org.

☞ Use Schinnerer’s contract review tools at www.Schinnerer.com/risk-mgmt/Pages/Contract-review.aspx.

the risk associated with their general commercial activities. For example, [commercial general liability \(CGL\)](#) insurance covers damages to property and injuries to persons caused by the insured’s acts or failures to act; automobile liability insurance covers owned, non-owned, and hired vehicles; and workers compensation insurance covers injuries sustained by employees in the course of their employment.

Insurance should not be perceived as a “silver bullet” solution for the management of all risk. For example, even though a claim may be covered by professional liability insurance, inevitable and uninsurable harm results. Generally, a design professional cannot recover the lost time and effort involved in the defense of a claim. As with other forms of business insurance, the deductible obligation must be satisfied from firm funds. Finally, an adverse claims history may result in a premium increase and, in some cases, uninsurability. Module 2-3, “Insurance for Design Professionals,” provides an extensive overview of insurance concepts, terms, forms, and coverages.

Transfer of Risk Via Contract. Contracts are another vehicle for the [transfer or allocation of risk](#). Unfortunately, contracts are a much-abused vehicle for risk transfer. Some clients, especially those least experienced with design and construction, try to allocate all risk to other parties. That is unrealistic. Logically, any given risk should be borne by the party best able to control the circumstances creating the risk and best able to insure against the risk. This is the principle under which the AIA and EJCDC drafted the [standard form contracts](#) that are so widely used in the industry.

As a general rule, if a party has the power and authority to carry out its duties, it has the best opportunity to minimize the risk associated with those duties. Conversely, parties should not be allocated responsibilities over which they have no control. Project participants should be fairly compensated for the risk allocated to them. Whenever [provisions in a contract](#) attempt to allocate risk to a design professional or contractor, the power or authority to manage the risk and appropriate compensation for the risk should be provided.

It is not always possible to achieve the circumstances described above. It may be that the risk associated with a project is extraordinary or is not within the clear control of any party. In such cases, the design professional should consider asking the client to retain or assume an equitable amount of risk. Many times, the real risk is not that the design professional will ultimately be held liable for problems that were not within his reasonable control. Rather, the risk is that he will be embroiled in litigation about problems that will prove to have been caused by others but that will sap the time and dollars of the design professional in defending himself.

Two different but related ways of addressing these problems are: 1) indemnification and 2) limitation of liability. Generally, legal and insurance counsel should be obtained before including or accepting indemnification or limitation of liability clauses in a contract.

 To read more about indemnification, see the following *Management Advisories* at www.Schinnerer.com/risk-mgmt/Pages/Management-advisories.aspx:

- “Indemnification: General Issues” (under the “Risk Allocation” subhead)
- “Defending and Indemnifying a Client” (under the “Legal” subhead)

Indemnification  occurs when one party agrees to pay for liabilities incurred by another party. For example, when a contractor agrees to indemnify the client and design professional for liabilities arising out of bodily injury to workers on the site, the contractor is agreeing to pay damages to which workers may be entitled from the client or design professional. This is an important concept because a party (e.g., the client or design professional) may be subject to legal liability for occurrences that it really cannot control. In this case, indemnification allows the risk to be borne by the party (the contractor) most able to control it. However, in other cases, indemnity may be used simply to shift risk to the party with the weaker bargaining position, notwithstanding that party’s ability to control the risk.

It is also possible, either alone or in conjunction with indemnification provisions, to negotiate a limitation of liability provision for inclusion in the professional services agreement. Under such a provision, one party agrees that it will not seek more than a limited amount of damages from the other party for certain actions or failures to act, regardless of the actual amount of the damages it may incur. Such an agreement only

binds the two parties who have agreed and does not limit a third party's right or ability to recover damages that it is due under the law.

☞ To read more about limitations of liability, see the following *Management Advisories* at www.Schinnerer.com/risk-mgmt/Pages/Management-advisories.aspx under the "Risk Allocation" subhead:

- "Limitation of Liability as an Allocation of Risk"
- "Limitation of Liability: Subconsultants"

You can also read "How Safe Is the Harbor? Limited Liability Provisions in the Design Professional Agreement" from the Annual Meeting of Invited Attorneys at www.Schinnerer.com/risk-mgmt/Pages/AMIA-past-meetings.aspx.

☞ The Engineers Joint Contract Documents Committee (EJCDC), publishes a series of standard engineer contract documents for use in all phases of the project. Go to www.ejcdc.org for more information.

Also, use of a written contract is the baseline criterion needed to qualify for Schinnerer and CNA's risk mitigation credit for eligible firms. Go to www.Schinnerer.com/risk-mgmt/Pages/Tools-understanding-insurance.aspx for details.

A *limitation of liability* ☞ provision might be considered in the following circumstances:

- where the project circumstances are unique, new, or otherwise subject to limited prior experience;
- where the risk is out of proportion to the compensation or the design professional's ability to control it;
- where insurance for the risk is either too expensive or not available at all; or
- where a judgment against the design firm that is greater than a specific amount could threaten the continued existence of the firm.

In any of those examples, a provision may be added that limits the design professional's liability to, for example:

- the amount of compensation actually paid to the design professional;
- the amount actually paid by insurance covering the matter;
- a specific dollar amount; or
- another agreed upon measure.

Again, these provisions deserve the help of legal and insurance counsel so that they have the best chance of being enforced as intended by the parties. Exhibit I of EJCDC No. E-500, *Standard Form of Agreement Between Owner and Engineer for Professional Services*, ☞ 2008 edition, contains model limitation of liability provisions.

As was the case with insurance, contractual risk transfer is not a guarantee that all risk will be transferred. For example, even a well-drafted indemnification provision in the design professional's favor invariably will leave the design professional with, at a minimum, some degree of risk:

- the indemnification provision may be declared ambiguous or unenforceable by a court;

- the indemnitor may refuse to honor the indemnification obligation, requiring the design professional to incur defense and other costs;
- the indemnitor may be financially unable to afford a competent defense or otherwise fund its indemnity obligation;
- the design professional (the indemnitee) may need to incur legal fees to enforce the indemnity agreement.

Avoid the Risk

Finally, if a design professional cannot answer the questions posed in the foregoing section on retaining and mitigating risk, and is not satisfied with the possibilities for transferring the risk, then the risk should probably be avoided. That may mean passing up a project—a difficult decision. The statistics are clear that clients, as opposed to contractors or other parties, bring most professional liability [claims against design professionals](#). Obviously, the best way to avoid risk is to avoid risky clients.

👉 For more information on claims involving clients, please see *From Risk to Profit: Benchmarking and Claims Studies*, at www.Schinnerer.com/risk-mgmt/Pages/Claim-studies.aspx, and our case study on public entity claims at www.Schinnerer.com/risk-mgmt/Pages/Claim-studies.aspx.

Problem clients seldom introduce themselves as such, however, and often are hard to spot. Experience is the best guide in evaluating potential clients. Almost every design professional who has been embroiled in a dispute during his career will tell you that, in hindsight, he knew early on that the client was going to be troublesome. The signs were there, and so was that “gut feeling,” but the fee was attractive or the project was particularly interesting or high profile, so he took the commission despite misgivings. In Module 1-4, “Evaluation of Clients and Projects,” and Module 2-4, “Dispute Prevention and Non-Adjudicative Resolution,” specific red flags are discussed that will help design professionals learn when to trust those feelings.

Beyond the client, there may be other signals that the prudent course is to avoid the risk presented by a specific project. The characteristics of the project might be sufficiently outside the firm’s experience that the principals feel that the risk is unpredictable, or the nature and high profile of the project or client could be such that if things go wrong reputations could

be tarnished beyond easy repair. Usually, when these characteristics are present, it is also the case that responsibilities are broad but diffuse. Many people may appear to be responsible for some event or activity but do not have the power to influence the outcome substantially. In this vein, an excellent working description of risk management is offered by Peter L. Bernstein:

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. (Bernstein, 197)

RISK CONTROL

It is not enough to identify the sources of risk applicable to the project, assess their probable impact, and develop specific response strategies. Those strategies must be implemented and monitored. Furthermore, during project execution, the design professional must analyze and respond to new sources of risk introduced by changed conditions or changes in the design professional's scope of services. Effective control of risk will only be accomplished through continual risk management planning and re-planning.

Maintaining open and frequent communication and promptly responding to problems during project execution is also essential to the effective control of risk. Prior to becoming a dispute or claim, most problems send signals. Risk management depends on the quick identification and effective response to these signals. Many if not most professional liability claims are predicated, to some degree, on communication failure between the design professional and client.

ATTITUDE TOWARD RISK

In the mid-80s, when the frequency of professional liability claims against design professionals reached an all-time high and many insurers had abandoned the professional liability market, a frequently heard comment was that the result would be "vanilla architecture" and "timid engineering." That did not

☞ For help in developing a firm-specific education program, use Schinnerer's *Risk Management Resource Manual* and *Curriculum Development Guide* at www.Schinnerer.com/risk-mgmt/Pages/RM-homepage.aspx under the "Resource Guides" subhead.

happen. Instead, most design professionals learned to manage risk proactively by following certain basic principles as part of an **overall risk management philosophy**. ☞ Some of these principles are as follows:

- Engage in projects within the design professional's qualifications, experience, and staffing.
- Carefully select clients through "due diligence" inquiries of appropriate persons, including other design professionals who have previously performed services for the same client.
- Provide training and regularly repeat training for firm personnel on contractual and risk management topics, including how to identify and deal with difficult client issues or risk-intensive situations.
- Provide timely and effective problem identification, management, and resolution. Avoiding 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 design professional.
- Although contractual risk allocation provisions, such as indemnification and limitation of liability, may help to manage and control risk, contract provisions, alone, are not the answer.
- Similarly, while insurance is an essential risk-transfer vehicle, one cannot rely solely on insurance as a substitute for a comprehensive risk management program.

The following modules build on these concepts, provide tools for managing risk, and sharpen the skills necessary to use those tools.

SUMMARY OF POINTS

1. 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.
2. Risk is the probability of an unfavorable outcome.

3. Risk management is the process of minimizing the probability and severity of an unfavorable outcome at the lowest long-term cost to the organization.
4. The number of statistically significant sources or categories of risk is relatively small. They include: the characteristics of the client; the nature of the project; the use of consultants for professional services; the contractor and method of project delivery; other parties; the design professionals' fee; the design professional's capabilities and experience; and the type of contracts for design and for construction.
5. Risk events that are unlikely to occur, but that would have catastrophic consequences require a different response from those that are more probable but of less consequence.
6. Among the risk management options available to design professionals are: retaining and mitigating the risk; transferring it wholly or partially to another party; or avoiding it completely.
7. 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.
8. Design professionals are obligated by law to perform their services with normal professional skill and care (i.e., non-negligently) and should carefully evaluate attempts to impose greater liability through contract language.
9. Risk that is retained should be mitigated through appropriate staffing and practice-management procedures.
10. Certain types of risk can be transferred to an insurer in exchange for the payment of premiums.
11. Two common ways of transferring risk via contract are through indemnification and limitation of liability provisions.
12. Indemnification provisions commit one party to be financially responsible for liabilities incurred by another party.

13. Limitation of liability provisions limit the amount of damages that one party may seek from another for specific acts or failures to act. Such provisions do not limit the rights of people or firms that were not party to the agreement.
14. If a design professional cannot effectively retain and mitigate a specific risk or transfer the risk via insurance or contract, the risk should probably be avoided—even if that means passing up a project.
15. During project execution, the design professional must analyze and respond to new sources of risk introduced by changed conditions or changes in the design professional's scope of services.
16. Maintaining open and frequent communications and promptly responding to problems during project execution is essential to the effective control of risk.
17. Design professionals reduced the record-high professional liability claim frequencies of the mid-80s by learning to manage risk proactively.

FURTHER READING

Bernstein, Peter L., *Against The Gods: The Remarkable Story of Risk*, John Wiley & Sons, Inc., New York, 1996.

Edwards, Leslie, *Practical Risk Management In The Construction Industry*, Thomas Telford Publications, London, 1995.

Garber, Richard B. and Heuer, Charles R., "Risk Management Strategies," Chapter 12.1 in *The Architect's Handbook of Professional Practice*, Thirteenth Edition, edited by Joseph A. Demkin, John Wiley & Sons, Inc., New York, 2001.

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