

Risk Management

CORPORATE OFFICE

Community Resource Group, Inc.
3 East Colt Square Drive
Fayetteville, AR 72703
Phone 479.443.2700
Fax 479.443.5036
www.crg.org

ALABAMA STATE OFFICE

1110 Hillcrest Road Suite 2D
Mobile, AL 36695
Phone 251.776.6635
Fax 251.776.6635

LOUISIANA STATE OFFICE

12749 HWY 28 East
Pineville, LA 71360
Phone (318) 466-9299
Fax: (318) 466-9255

MISSISSIPPI STATE OFFICE

322 E. Railroad Ave. Suite B
P.O. Box 1007
Crystal Springs, MS 39059
Phone: (479) 445-3729
Fax: (601) 892-0879

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Risk Management

Course Description:

Assessing potential risks to your water utility, reducing exposure to those risks, and acquiring the necessary insurance protection, are important elements to protect your utility against catastrophic losses. This course focuses on basic principles of risk management and the types of insurance common to water utilities. After completing this course, participants should have a better understanding of the importance of periodical risk assessments and managing risk through retention, reduction, and transfer.

Learning Objectives:

After completing this course, participants should be able to do the following:

1. Define risk and risk management.
2. List the three steps of an effective risk management model.
3. Discuss the three methods to manage risks.
4. Name two lines of insurance common to water utilities.
5. List the three types of peril coverage.
6. Explain four types of property insurance.
7. Differentiate between actual cash value and replacement cost coverage.
8. Differentiate between occurrence and claims made coverage.
9. Explain the five main types of liability insurance.

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Section

A

RISK MANAGEMENT

CHAPTER 1.

Introduction to Risk Management

Like any business, a small water utility is exposed to a number of risks which can be very costly and even catastrophic. Whether an employee is involved in a workplace injury, severe weather damages your equipment, or a lawsuit is filed against your water utility, the result could be the same - it can financially cripple or even bankrupt your utility.

What is a risk? We spend our entire lives coping with risks: getting in your vehicle for your morning commute, walking across the street, investing in the stock market. All of these risks can result in positive outcomes and thus are opportunities. But some risks including these examples also have negative outcomes. Whether you are talking about personal risks or risks related to your water utility, a risk is any chance or uncertainty of loss. When referenced in this course, a risk can be defined as any issue that has the potential for negatively impacting your water utility's mission of providing safe drinking water at an affordable price to your customers.

Risk Management is the process of identifying risks, determining the probability of occurrence, assessing the impact of those risks, and then developing strategies to control those risks. When risk management is mentioned to most board members and water system managers, insurance is the first and sometimes only thought. While insurance is an important component of protecting your water utility against risks, it certainly should not be the sole component of your utility's risk management plan.

There are three steps to effective Risk Management:

Step 1: Identify Risks - *the process of identifying potential risks to all aspects of your utility (Personnel, Property, and Product).*

- ❑ **Personnel Risks** (those associated with your Board, Management, or Staff): *Board not adopting necessary policies; Management not implementing or enforcing policies; Staff ignoring or otherwise not following policies.*

WHAT IS RISK?

Any issue that has the potential for negatively impacting your water utility's mission of providing safe drinking water at an affordable price to your customers.



- ❑ **Property Risks** (those associated with your Buildings, Vehicles, Equipment, Treatment Plant, Tanks, and Distribution System): *Accidents, Natural Disasters, or Intentional Sabotage that otherwise damages or destroys your utility's property or property of others.*
- ❑ **Product Risks** (those associated with your Water Quality or Water Quantity): *Drinking water regulatory compliance violations, Waterborne Disease Outbreaks, Insufficient supply of water to meet customer demands or expectations.*

When you go through the process of identifying risks related to your Personnel, Property, and Product you should not focus just on those risks that you feel have a higher probability of occurrence, but all risks. For example, you may have excellent financial internal controls in place and a bookkeeper whom you never would suspect of embezzlement. But is this not still a possible risk? Your first thought may be 'no' because of your level of trust in this particular employee. While it is probable that due to this issue never being a problem with your utility and may rank low on your risk prioritization (next step after risk identification), this fact does not negate the risk. List it and all other risks (regardless of historical occurrences or probability of future occurrences) associated with your Personnel, Property, or Product.

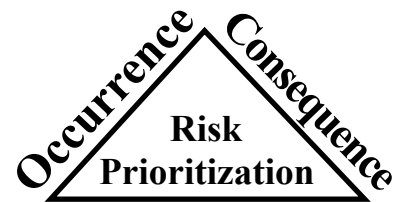
**WHAT IS RISK
MANAGEMENT?**

The process of identifying risks, determining the probability of occurrence and impact, and taking the necessary steps to control those risks.

Use available information and seek assistance if necessary to complete the process of identifying risk. Remember, it is critical that you identify all possible risks. Those that you fail to identify may be just the ones that eventually cause your water utility problems. One important tool that you can use to assist you in identifying risks is your Security Vulnerability Assessment. While this document focuses on your water utility's vulnerability to intentional sabotage and physical plant security, it does suggest some risks associated with your utility. Another source of information in identifying risks associated with your Property and Product is your regulatory records that include the sanitary survey, state inspection report and annual consumer confidence report. Your current commercial insurance policies are another important resource in helping you to identify your risks. Still, if you need additional assistance you can seek guidance from your attorney and possibly your insurance agent or professional risk manager.

Step 2: Prioritize Risks - *the process of assessing and determining the probability of occurrence, the potential consequence of a risk, and then prioritizing those risks that have the greatest potential loss and the highest probability of occurrence down to those with the lowest potential loss and/or the lowest probability of occurrence.*

Step 2:



$$\text{Risk Priority} = \text{Occurrence} \times \text{Consequence}$$

The simple formula listed above is the method in which you should assign a numerical rating (prioritized ranking) for each risk that you identified in Step 1 (Risk Identification). The first part of the process of Risk Prioritization is to determine probability of occurrence. Has this risk occurred in the past with your water utility? How many times in the past has this risk occurred? The answers to these two questions can help you determine the probability of future occurrences. One thing to remember is that you should go far enough back in time to accurately determine historical occurrences so that you can predict the probability of future occurrences. But at the same time, the further you look into the history of your water utility, the more complicated this task can become. A ten-year occurrence history will probably provide you with an adequate amount of information. Regardless of the length of the term you choose, research the occurrence of each identified risk over the same period of time.

The second part of the process of Risk Prioritization is to determine the consequence to your water utility should a risk occur. What is the potential loss to your water utility should the risk occur? First, determine the amount of cost that your utility can absorb (Risk Retention) without causing a significant financial impact. This should be your lowest threshold. For example, if your finances would allow for you to spend \$10,000 without causing significant problems, the low end of your Consequence ranking should be \$10,000 and less. Next, determine the amount that you would consider catastrophic or at least high enough to warrant a rate increase. This amount and higher should be the high end of your Consequence scale. You can now split the middle of these two consequences with as many ranking categories as you wish provided that the total number of consequence rankings equal the number of occurrence rankings.

**THREE STEPS TO
EFFECTIVE RISK
MANAGEMENT**

1. *Identify Risks*
2. *Prioritize Risks*
3. *Manage Risks*

The table on the following page illustrates this method of prioritizing risks. Notice that there are three occurrence rankings and three consequence rankings.

Occurrence Rankings -

- Never** -if the event has not occurred over the historical term (10 years), list "1" in this column.
- <3 Times** - if the event has occurred at least once but not more than twice (less than 3 times), denote "5" in this column.
- >3 Times** - if the event has occurred three or more times over the historical term, list "10" in this column.

Consequence Rankings -

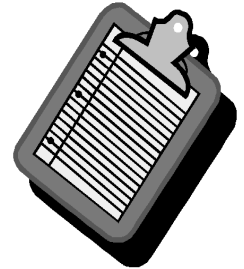
- <\$10,000** - this is the maximum that this utility feels that it can afford to retain (pay for the costs associated with risk occurrences). Denote "1" in this column if you estimate that the risk will not cost more than \$10,000.
- <\$25,000** - this is the maximum threshold that this utility considers to be less than catastrophic. If the risk is estimated to cost more than \$10,000 but less than \$25,000, a "5" would be denoted in this column.
- >\$25,000** - this is the catastrophic column. If a risk event were estimated to cost more than \$25,000, a "10" would be denoted in this column.

Priority Rankings - remember to multiply the Occurrence ranking times the Consequence ranking to calculate the Priority Ranking. With the table listed as an example below, there are five Risk Priority Rankings:

1. Very High - (100 Rating)
2. High - (50 Rating)
3. Middle - (25 Rating)
4. Low - (10 Rating)
5. Very Low - (Either 1 or 5 Ratings)

Risk Prioritization Table

Risk Category - Personnel							
Identified Risk	10-Year Occurrence			Consequence (Loss Potential)			Risk Priority (=OxC)
	Never (1)	<3 Times (5)	>3 Times (10)	<\$10K (1)	<\$25K (5)	>\$25K (10)	
Workplace Violence		5				10	50
Sexual Harassment	1					10	10
Embezzlement	1					10	10
Workplace Injuries			10			10	100

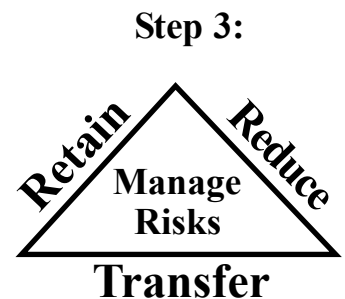


Explanation of How to Calculate Risk Priority Rankings:

1. Identified Risk: Workplace Violence
2. Consequence Rating: 10 (You have estimated that this risk has the potential for costing your utility more than \$25,000)
3. Occurrence Rating: 5 (Your utility had an incident in which two maintenance workers got in a fist fight several years ago. One was injured fairly severely and filed for workers compensation insurance and filed a lawsuit against the board for not adopting a workplace violence prevention-training program.)
4. Risk Priority: $5 \times 10 = 50$ (High Risk Priority)

Step 3: Manage Risks - *the process of retaining, reducing, or transferring the impact of risks.*

Now that you have arrived at this step in the Risk Management Process you will need to make some decisions on which risks you should retain, reduce, or transfer. **Retaining a Risk** basically means that if a negative event were to occur, you are prepared to pay for it. For example, let's assume that you have a couple of speeding tickets and you don't want to further risk the possibility of your car insurance premiums being increased. Now let's say that you have a minor fender bender that will cost you about \$1,000 to repair. You could submit this claim to your insurance company and it would only cost you your \$500 deductible (and almost guarantee that your premiums will increase given your current driving record). Or you could pay for the \$1,000 in repairs yourself. This is an example of risk retention. How big of



a risk can your water utility retain? Understand that not all risks can be completely reduced and on the other hand not all can be affordably insured. You will need to retain some risks.

The next component of Managing Risk is to take the necessary actions to reduce those risks facing your water utility. This important process is covered in detail in Chapter 2. **Reducing Risks** is critical to effective Risk Management and to limiting the number of occurrences of negative events or reducing their potential impact. Listed in the Risk Prioritization Table on the opposite page is the Workplace Injuries Risk. You can see in this example that this event has occurred more than three times over the last ten years. Can this risk be reduced? How could this risk be reduced? If you think that the implementation of a workplace safety program that includes policies, staff training, and even employee incentives for exceptional safety records may reduce this risk, you are probably right on track! What other risks should you consider reducing first? Refer back to your Risk Prioritization Table to determine which risks you should focus on reducing by focusing first on those that rank the highest. There are several strategies for reducing risks, which will be covered in more detail in the next chapter.

The final step of Managing Risk is to **Transfer Risks**. You can transfer risks through contracts and agreements. An example of this is your Water Users Agreement. If you have a disclaimer clause in your water users agreement that states that your utility cannot offer a guarantee of uninterrupted service, the risk associated with water quantity is mitigated through the transfer of this risk. Although contracts and agreements may legally protect your utility, you should understand that these documents could be challenged in court. The most effective method of transferring risk is to obtain insurance to cover the cost of financial losses associated with risk occurrences. While insurance does not eliminate risks, it does involve a transfer of those risk from your water utility to a third party (insurance company) which for the exchange of premium payments will assume the responsibility of paying for the cost of a negative event occurrence. The process of transferring risk and insurance will be covered in more detail in Chapter 3.

CHAPTER 2.

Risk Reduction

The ability to reduce the probability of occurrences is the ultimate goal anytime you assess the risks facing your water utility. By following the steps in the risk management model in Chapter 1, you will successfully identify, prioritize and control the risks facing your system. By managing the risks threatening your water system, you are actively making a decision whether to retain a risk, transfer a risk and /or reduce a risk.

The mere stress of identifying risks can make some board members and water utility managers resistant to the idea of conducting assessments. Once the risks have been identified and prioritized, the problem is, how to go about reducing risk? Implementing risk reduction strategies can be time consuming but ultimately have the potential for saving the water utility thousands of dollars. Board members may be concerned that once risks have been identified they must be resolved immediately and some may even believe that the risk should be completely eliminated.

In reality, it is truly impossible to eliminate every risk that you have determined to be a concern during your assessment process. Simply put, reducing risk is minimizing the probability that a risk will result in a problematic incident that will pose a financial loss to the water utility. Reducing risk and eliminating a risk is not the same thing and in most cases, reducing risk will be the most beneficial step you can take for the welfare of your water system. For example, in the case of workplace safety, by implementing policies, training programs and employee incentives, you have effectively reduced the *probability* that a workplace accident will occur; however, the *possibility* still exists that an incident will occur and the risk can never be eliminated completely. You have reduced the risk, yet there is still a possibility that an incident can occur. While you have controlled this risk by reducing the possibility of occurrence, you will still need to transfer the risk (to be discussed in Chapter 3) to further protect the water utility against loss.

Reducing your water system's risk cannot be accomplished immediately. Expect that some planning and budgeting will need to be done in order to adequately accomplish this goal. The best place to start is by getting the board, management, and staff together to review the prioritized risks and develop *strategies* for reducing the risks. Some risks may require multiple strategies to effectively reduce the risk.

WHAT IS RISK REDUCTION

The process of minimizing the probability that a risk will result in a problematic occurrence and that will result in a financial loss to the water utility.

There are basically three strategies that can be used to reduce risk:

- 1. Policy -** The development and implementation of policies that promote actions that have the potential of reducing risks and restrict actions that may result in a risk occurrence.
- 2. Training -** Budgeting for and requiring staff to attend training programs that focus on workplace safety, regulatory compliance, waterworks operations, and/or security.
- 3. Barriers -** Designing, constructing, or procuring barriers to prevent damage to water utility property and equipment.

Addressing risk at your water system should occur in a three-phase process. Using the list of prioritized risk scores that you developed during steps 1 & 2 of the risk management model, outline a plan to reduce your risks in phases. By addressing your risks in phases you can focus on those that present the most urgent threat to your water system first and then work down the list until you have taken steps to reduce all of the risks. You can determine during which phase a risk should be addressed by using the following guidelines:



- Phase 1 Risks - during this phase you need to address risks that pose a Very High risk (determined by your risk prioritization) to your water utility. These risks must:
 - Have a risk score of Very High (100).
 - Be addressed immediately in order to protect your utility against a catastrophic loss. Hopefully, there will be very few risks that you prioritize.
- Phase 2 Risks - during this phase you will address risks that may pose a loss to your water utility, but are not as urgent as those that are prioritized as Very High. These risks must:
 - Have a risk score of High (50) or Middle (25).
 - Be addressed within 6 months to a year after the immediate risk needs are reduced.
- Phase 3 Risks - during this phase you will address risks that present a minimal threat to your water utility, yet require attention. These risks must:
 - Have a risk score of Low (10) or Very Low (1 or 5).
 - Be addressed eventually, but can be low in concern and addressed after more urgent risks have been reduced. Ultimately some of these risks may be retained because of the low loss or probability of occurrence factors.

The Risk Reduction Table shown below illustrates how to segregate the prioritized risks into the three reduction phases, possible reduction strategies, specific actions to be implemented to reduce the risks, and a column for the date the actions are completed (or projected to be completed).

RISK REDUCTION TABLE

Phase 1						
Identified Risk	Risk Priority	Reduction Strategy			Action(s) to be Implemented	Date Completed (Projected)
		Policy	Training	Barriers		
Workplace Injuries	100	✓	✓	✓	Personnel Policy, Safety Training, Safety Equipment	12/15/04
Vandalism	100	✓		✓	Security Policy, Fencing, Recommended VA Actions	10/07/04
Compliance Violations	100	✓	✓		O&M Policy, Operator Training	10/31/04
Phase 2						
Identified Risk	Risk Priority	Reduction Strategy			Action(s) to be Implemented	Date Completed (Projected)
		Policy	Training	Barriers		
Workplace Violence	50	✓	✓		Personnel Policy & HR Training	12/15/04
Fire Damage	50			✓	Fire Alarms	(6/30/05)
Cut Cables	50	✓	✓		O&M Policy, Operator Training	(6/30/05)
Traffic Accidents	50	✓	✓	✓	O&M Policy, Traffic Control Training, & Barricades	(6/30/05)
Damage to Others Property	25	✓			O&M Policy	(6/30/05)
Lightning Damage	25			✓	Lightning arrestors and surge protection	(6/30/05)
Water Outages	25	✓	✓	✓	ERP, O&M Policy, Generator, Operator Training	(6/30/05)
Freeze Damage	25	✓		✓	O&M Policy, Heat Lamps	(6/30/05)
Phase 3						
Identified Risk	Risk Priority	Reduction Strategy			Action(s) to be Implemented	Date Completed (Projected)
		Policy	Training	Barriers		
Sexual Harassment	10	✓	✓		Personnel Policy and HR training	12/15/04
Embezzlement	10	✓			Asset Management Policy	(12/31/05)
Earthquake	10				None - Transfer	NA
Flood Damage	10				None - Retain Minimal Risk	NA
Intentional Sabotage (Terrorism)	10	✓	✓	✓	Security VA, ERP, Security Training, VA recommendations	(12/31/05)

CHAPTER 3.

Risk Transfer

Risk Transfer was presented in Chapter 1 as a final method to managing risks. Transferring risks involves another party accepting the responsibility for paying any costs associated with the risks. There are basically three types of risk transfer: by Contract, through a Risk Retention Pool, and through Insurance. While there is usually some cost (premiums or shared claim expenses) associated with risk transfers, this is never as expensive as it would be if you had to incur all cost associated with a catastrophic loss.

Risk Transfer by **Contract** is very common. We know them as "Waivers" or "Disclaimers" and "Boilerplates." There are literally hundreds of different types of risk transfer provisions in contracts. While some may be unique and drafted from scratch, most are modified versions of clauses found in legal forms or contracts already in use. Most risk transfer provisions are not the entire contract but only a provision of the contract. In Chapter 1, a Water Users Agreement (contract between the water utility and the customer) was used as an example of transferring the water quantity risk to the user (customer). Is this risk transfer provision the sole purpose of this contract? No it is not. The Water Users Agreement basically serves as a contract by which the customer agrees to adhere to the bylaws and policies of the water utility in exchange for water service. The statement in the Water Users Agreement where the customer acknowledges (through the signature) that the water utility cannot guarantee an uninterrupted supply of water is merely a provision of the overall contract.



There are numerous classifications of Risk Transfer provisions by Contract. Although some of these terms are used interchangeably and sometimes in different context by attorneys, risk managers, and insurance agents, the following are types of provisions of Risk Transfers by Contract:

- ❑ **Exculpatory Provision** - *absolves, relieves, or excuses a party from the consequences of an alleged fault, blame, or guilt.*
- ❑ **Hold-Harmless Provision** - *a type of exculpatory provision where one party agrees to hold harmless another party for specified types of losses.*

- ❑ **Indemnity Provision** - *often used in conjunction with a hold-harmless provision and is an agreement where one party agrees to secure against another an anticipated loss or damage.*
- ❑ **Mutual Waiver Provision** - *each party of a contract agrees to waive its rights and remedies against the other and otherwise releases each party from liability.*

Risk Transfer through a **Retention Pool** is where a group of mutually interested organizations (water utilities and/or municipal governments) join forces to self-insure each member of the pool against certain risks. In 1986, Congress amended the 1981 Liability Risk Retention Act by giving all types of businesses (including water utilities) the right to form self-insurance programs. This has enabled water utilities to form Risk Retention Groups and Purchasing Groups. Risk retention pools are technically retaining the risk for the whole group but transferring the cost of individual occurrence events to all members of the group. This is different from traditional insurance because no premiums are paid. Purchasing Groups pool similar type businesses to obtain discounted premiums.

1. **Risk Retention Groups (RRGs)** - provide self-insurance to members of the group.
2. **Purchasing Groups (PGs)** - obtains discounted premiums for members of the group.

Insurance is the most common method of Risk Transfer. Insurance policies are basically contracts where risks are transferred by a person or business (water utility) to an insurance company that agrees to pay for losses in exchange for premiums charged. Although contracts and agreements may legally protect your utility by transferring risk, you should understand that these documents could be challenged in court. The cost of defending these contracts or provisions can be expensive. The most common and effective method of transferring risk is to obtain insurance to cover the cost of financial losses associated with risk occurrences. While insurance does not eliminate risks, it does involve a transfer of those risk from your water utility to a third party (insurance company) which for the exchange of premium payments will assume the responsibility of paying for the cost of a negative event occurrence.

The **Law of Large Numbers** is used by insurance companies to provide large amounts of coverage (claim payments) for relatively little money paid by those insured (premium payments). For example, not every insured water utility will submit a property loss claim to their insurance company this year. But because almost all water utilities are paying premiums to the insurance company(s), the insurance companies can afford to pay the claims that are submitted. Insurance companies rely on statistics to predict claims and thus set premium levels that adhere to the law of large numbers.

Where a risk is defined simply as the uncertainty of loss, a **Peril** is the *cause* of the loss. Examples of perils that frequently cause losses are vehicle collisions, fires, lightning, hail, flood, etc. Insurance can cover specific perils or can cover all perils not excluded from the insurance policy. Insurance that covers specific perils is called **Named Peril** coverage. Insurance that covers all perils (unless specifically excluded in the policy) is called **Special Form** coverage.

As previously mentioned, insurance policies are basically contracts between the insured (water utility) and the insurer (insurance company). There are usually five parts of an insurance contract: Declarations, Insuring Agreements, Conditions, Exclusions, and Definitions.

- ❑ **Declarations** - contain the name and address of the insured, the amount of coverage provided, a description of the property, and the cost of the policy.
- ❑ **Insuring Agreements** - state what losses will be indemnified (covered) by the insurance company and what specific perils are insured (if a named-peril coverage policy).
- ❑ **Conditions** - describe the responsibilities and obligations of the insured and the insurance company.
- ❑ **Exclusions** - describe the losses and perils not indemnified (covered) by the insurance company.
- ❑ **Definitions** - clarifies the meanings of certain terms used in the insurance policy.

There are basically four main categories or **Lines of Insurance**, which include Life, Health, Property, and Casualty. The remaining chapters in this manual will focus on the Property and Casualty lines of insurance. **Property Insurance** covers specific types of property risks where the insurance

2	TWO LINES OF INSURANCE COMMON TO WATER UTILITIES:
	<i>1. Property Insurance</i>
	<i>2. Casualty Insurance</i>

company pays the insured for claims for property losses. Property Insurance types common to water utilities include Commercial Property, Commercial Auto, Inland Marine, and Crime Insurance. **Casualty Insurance** covers the liability risk (potential loss suffered as a result of the water utility's actions against others. Casualty Insurance common to water utilities includes General Liability, Directors and Officers (or Public Officials) Liability, Commercial Auto Liability, Hired and Non-Owned Auto Liability, and Workers Compensation.

Almost all insurance policies specify a **Deductible** amount that is retained by the insured by means of subtracting this amount from the amount of the claim. The deductible is designed to limit the filing of small losses that can reasonably be retained by the water utility. Generally, the higher the deductible amount results in a lower amount of premium charged by the insurance company.

CHAPTER 4

Property Insurance

Property insurance is necessary for all water utilities regardless of their size, complexity of infrastructure, and the buildings, automobiles, and equipment owned by the utility. Property insurance is also required by government institutions that provide financing for water utilities and is often required by private lenders as well. As presented in the last chapter, property insurance protects the water utility against property losses. In this chapter, several types of property insurance common to water utilities will be discussed.



Commercial Property insurance covers losses against a water utility's office, other buildings, treatment plants, water wells, pumps, controls, and storage tanks and other real or fixed property owned by the utility. In most cases, one commercial property policy covers most of the real property of the water utility under separate forms. Commercial Property insurance is required by both governmental lending institutions (USDA - Rural Development) and private lenders (GMAC). There are three types of coverage options with Commercial Property policies:

- ❑ **Basic Coverage** - insures against specific perils including fire, lightning, explosion, windstorm or hail, smoke, aircraft or vehicles, riot or civil commotion, vandalism, sprinkler leakage, sinkhole collapse, and volcanic action.
- ❑ **Broad Coverage** - insures against the same perils named in the Basic Coverage and adds five more perils including structural glass breakage, falling objects, weight of ice, snow or sleet, water damage associated with building plumbing systems, and building collapse (from specified causes other than earthquakes).
- ❑ **Special Form Coverage** - insures against all perils except those specifically excluded by the policy. (Special Form coverage is the most comprehensive of the three coverage options and is the same as the "all risk" peril coverage discussed in the previous chapter.

Additional coverage options for flood and earthquake perils (typically excluded perils) may be obtained on separate forms. Flood Insurance may be obtained in areas declared eligible by the Federal Insurance Administrator

3 THREE TYPES OF PERIL COVERAGE

1. *Basic*
2. *Broad*
3. *Special Form*

and purchased through participating insurance companies in the National Flood Insurance Program. The Earthquake Form is available to include damage caused by an earthquake or earth movement associated with volcanic eruption.

Claims covered by Commercial Property insurance are paid by one of the two following methods:

Actual Cash Value (ACV) - typically personal property of water utilities (office equipment and furniture) located within buildings are covered by this method in which coverage is limited to depreciated value of the property minus the deductible. This method of claims payment is sometimes used to cover buildings and other equipment as well.

Replacement Value - typically buildings, wells, tanks, and other water system fixed equipment are covered by this method in which coverage is the replacement value (with no deduction for depreciation) minus the deductible provided that water utility carries insurance equal to at least 80% of the replacement cost of the property covered by the policy. If the water utility does not have coverage for at least 80% of the replacement value, the insurance company will pay only a portion of the actual claim amount that is calculated by dividing the amount of coverage by the replacement value, multiplied against the amount of loss, and then reduced by the deductible amount. For example if a water utility has its elevated tank covered for \$200,000 but the actual replacement value is \$385,000. 80% of the replacement value (minimum insurance required) is \$308,000. Let's say that a disgruntled customer or prankster decided to use your elevated tank for target practice with a high-powered rifle and as a result the estimated cost to repair the holes is \$13,400. Let's assume that you have a \$1,000 deductible. How much will be paid by the insurance company for this claim?

$\frac{\text{Coverage Amount}}{\text{Replacement Cost}}$ (times 80%)	x	Amount of Loss	=	(minus deductible) Amount of Reimbursement
$\frac{\$200,000}{\$308,000}$	x	(\$13,400 - \$1,000)	=	(minus \$1,000) Amount of Reimbursement
0.649	x	\$13,400	=	\$8,701 - \$1,000 \$7,701

In this example, the water utility would retain the difference between the cost of the elevated tank repairs and the claim reimbursement amount because it is underinsuring its property. Let's assume that the rate of property insurance is \$0.35 per year per \$1,000 amount covered. How much of a difference between premiums paid versus the penalty for underinsuring this claim cost the water utility this year?

Step 1:				
Replacement Cost	-	Covered Amount	=	Amount not Covered
\$385,000	-	\$200,000	=	\$185,000
Step 2:				
<u>Amount not Covered</u>	x	Annual Premium Factor	=	Additional Required Annual Premium
\$1,000				
<u>\$185,000</u>	x	0.35	=	\$64.75
\$1,000				
\$385,000	-	\$200,000	=	\$185,000
Step 3:				
Claim Reimbursement (If 80% Insured)	-	Actual Claim Reimbursement	=	Underinsurance Penalty
\$12,400	-	\$7,701	=	\$4,699

By saving a few dollars (\$64.75 a year) and in effect underinsuring the water utility's property, this ultimately cost the utility \$4,699 more than it would have if adequate coverage were in place. Assuming the premiums would remain the same, it would take 72.5 years for the water utility to have broken even. How many potential property claims do you think could occur with a water utility over this length of time? This illustration underscores the necessity of having your water utility's property valued periodically to ensure that the necessary coverage amounts are in place.

Commercial Auto insurance is also common to water utilities that own and operate service trucks and other vehicles. Commercial Auto insurance typically covers physical damage pursuant to *Comprehensive* coverage provisions or specified causes of loss and *Collision*. Collision or comprehensive coverage is stipulated and required over the term of the loan for those vehicles financed by a bank.

Additionally, Commercial Auto policies also provide liability insurance that will be covered in the next chapter.

The third type of property insurance common to most water utilities that own and operate equipment such as backhoes, trenchers, equipment trailers, portable generators and pumps, power and hand tools, two-way radios and/or computer equipment is **Commercial Inland Marine** coverage. Two-way radio equipment including base radio transceivers, radio antennae, and truck radios are covered against most perils by **Instrumentalities of Communication Forms**. Additionally, Commercial Inland Marine provides coverage for the replacement cost of damaged items such as maps, deeds, and books under the **Valuable Papers And Records** coverage form. There are several non-filed forms that fall under commercial property *Floater*s which provide blanket coverage against most perils except those specifically excluded (special form coverage) on property owned by the water utility, in transit, or on another's property. Commercial Property Floaters common to water utilities include the following:



- ❑ **Contractors Equipment Floater** - covers heavy equipment such as backhoes, trenchers, and tractors, and equipment trailers in addition to **Electronic Data Processing Equipment Floater** - covers a water utility's computer hardware, software, and data. Optional coverage for computer damage caused by mechanical breakdowns, electrical disturbances, and temperature changes is also available on this floater.

The fourth and final type of property insurance common to water utilities is **Crime Insurance**. This type of insurance protects the water utility against property losses resulting from crimes such as burglary, robbery, theft, and employee dishonesty. There are two types of Crime Insurance forms.

- ❑ **Loss Sustained** - Crime Insurance form covers losses that are sustained during the policy period and discovered either during the policy period or up to one year after the expiration date of the policy.

4	FOUR TYPES OF PROPERTY INSURANCE
1.	<i>Commercial Property</i>
2.	<i>Commercial Inland Marine</i>
3.	<i>Commercial Auto</i>
4.	<i>Commercial Crime</i>

- ❑ **Discovery** - Crime Insurance form covers losses that are sustained at any time (previous policy periods included) and discovered either during the policy period or up to sixty days after the expiration date of the policy.

There are many different types of crime coverage plans ranging from single to multiple forms of the following coverage types:

- ❑ **Employee Dishonesty Coverage Form** - reimburses the water utility the amount of loss up to the specified coverage amount because of any dishonest or unlawful act of an employee(s). Water utilities that are financed by governmental lenders such as USDA - Rural Development are required to have Employee Dishonesty at a minimum coverage equal to at least the annual loan installment amount. There are two types of Employee Dishonesty coverage. The first type is called a *Fidelity Bond* and specifically names the employee or board members covered by this coverage. Employees or board members not specifically named in the bond are not covered. If a loss occurs as a result of an employee or board member not named in the bond, the water utility is not protected against loss. The second type of coverage is covered by *Blanket Crime Coverage* and protects the water utility against financial losses caused by dishonest or unlawful acts of any employee or board member.
- ❑ **Forgery or Alteration Coverage** - protects the water utility for losses caused by forgery or alteration of checks, drafts, promissory notes and other financial instruments.
- ❑ **Theft, Disappearance, and Destruction Coverage** - covers money and securities inside the water utility's office and money and securities outside of the premises when in the custody of an employee who is transporting the money or securities to a bank.
- ❑ **Robbery and Safe Burglary Coverage** - protects the water utility against other than money or securities of the water utility and may be limited to robbery or safe burglary.
- ❑ **Computer Fraud Coverage** - protects the water utility against the loss of money, securities, and other property caused by the use of a computer to fraudulently transfer that property owned by the utility to another place or person.
- ❑ **Money Orders and Counterfeit Papers Coverage** - protects the water utility against losses that result from accepting in good faith invalid money orders or counterfeit paper currency.



CHAPTER 5

Casualty Insurance

Even with legislation in recent years aimed at reforming the tort system and placing limits on liability, **Casualty Insurance** is still a very critical necessity for protecting a water utility from losses associated with claims of damage by third parties. Even municipal water utilities which once enjoyed the protection of sovereign immunity, now have exposure to liability. Regardless of the merit, the amount of a claim against the water utility, or the legal limits of liability, it is important that all water utilities obtain reasonable liability protection.

There are basically two types of coverage forms with liability insurance: the *occurrence* form and the *claims-made* form. Most liability insurance is written on the **Occurrence** form that covers damage or injuries that occur during the policy period. For example, if a water utility has liability insurance coverage with another insurance company that previously wrote the coverage a few years ago for that utility and a claim was made today for an injury that purportedly occurred under the old policy, if that policy were written on the Occurrence form, the former insurance carrier would be legally obligated to cover the claim.

On the other hand liability insurance written on the **Claims-Made** form covers those claims made during the policy term regardless of date of occurrence. However, there is often a declaration with a stated *retroactive date* on a Claims-Made form that does not cover claims that occurred prior to that date. If a water utility has liability coverage under the Claims-Made form switches to coverage under the Occurrence form, it is important to understand that there is a gap of coverage. A special feature of the Claims-Made form is that it provides for an *extended reporting period* of 60 days for five additional years of coverage after the termination of the policy. If a water utility notifies the insurance company within 60 days after termination of the policy of a possible (specific nature) liability incident, the insurance company will pay any claim associated with the liability incident within five years after policy termination. Because of these limitations and potential gaps in coverage, water utilities transitioning from liability insurance on the Claims-Made form to the Occurrence form may need to purchase additional liability tail coverage. For these reasons, liability insurance on the Occurrence form is usually preferred by most businesses including water utilities.



There are two limits of liability coverage: *Aggregate* limit and *Occurrence* limit. The **Aggregate** limit listed in the Declarations of the policy stipulates the most that will be paid in claims over the term of the policy. The **Occurrence** limit also listed in the policy Declarations stipulates the most that will be paid per occurrence incident. For example, a water utility may have a \$1,000,000 Aggregate limit and a \$500,000 Occurrence limit. If a claim for \$799,000 were filed, only \$500,000 would be covered because this is the limit per occurrence. On the other hand and using the same example, if three \$400,000 claims occurred during the policy period (totaling \$1.2 million) only \$1,000,000 would be covered by the Aggregate limit.



Commercial General Liability insurance covers liability from conducting business both on the *premises* of a business and *operations* exposure off-site. A water utility may not just be held liable for its own operations or business practices. It may also be held liable for other businesses including contractors and subcontractors that perform work for the utility. This exposure is called *indirect or contingent liability*. A third type of General Liability coverage available to most businesses but unfortunately very expensive or hard to obtain for water utilities since September 11, 2001 is *product liability* exposure. (The heightened awareness of a potential terrorist threat of intentional sabotage against the nation's water supplies since 9/11 has caused many insurance actuaries to refuse to underwrite product liability coverage for water utilities). USDA-Rural Development, which has historically financed many of the water utilities across the country, requires through its loan covenant agreements that the water utility borrowers carry General Liability insurance.

Commercial General Liability insurance provides three basic areas of coverage:

- ❑ **Bodily Injury and Property Damage** - pays third party claims against a water utility for bodily injury or damage provided that the injury or damage was not intentional, work related injuries which are normally covered by workers compensation, and that the property damage or injury was not caused by pollution or an automobile owned or operated by the utility or its agents.
- ❑ **Personal and Advertising Injury** - pays third party claims against a water utility arising out of offenses such as slander or libel provided that the utility did not knowingly inflict injury that violates the rights of another, criminal acts by or at the direction of the utility, or incorrect billing practices.

- ❑ **Medical Payments** - pays third party medical expenses for injuries sustained on the premise of the utility, on adjacent property, or off-site caused by operations of the utility provided that the medical claims did not result from the operation of an auto owned or operated by the utility or its agents. This type of General Liability coverage pays claims without regard to fault provided that medical expenses are incurred and reported to the insurance company within one year of the date of the accident.

There are additional optional endorsements offered through Commercial General Liability that may be applicable to water utilities including the *Owners and Contractors Protective Liability* coverage form and the *Pollution Liability* coverage form. **Owners and Contractors Protective Liability** covers the indirect liability of claims resulting from the actions of contractors or subcontractors performing work for the water utility. **Pollution Liability** covers certain pollution losses excluded through the standard General Liability policy.



While General Liability insurance does not cover the water utility from third party claims caused by or involving automobiles, there are two types of auto liability that provides this protection. The first type is **Commercial Auto Liability** and is standard with Commercial Auto Insurance that was discussed in the previous chapter. Commercial Auto Liability is written for water utilities that own and operate vehicles. Another type of auto liability insurance typically written for both utilities that own and operate vehicles as well as those which do not is **Hired and Non-Ownership Liability** which protects the water utility against claims for accidents due to employees, contractors, or board members operating their own automobiles in the water utility's interest. To illustrate how Hired and Non-Ownership Liability works consider the following scenario. First, assume your water utility does not own or operate any vehicles and thus does not have Commercial Auto Liability. Your bookkeeper is driving her personal vehicle while in transit to make a bank deposit for the water utility and has an accident. You may assume that she has personal auto liability coverage and hopefully for her sake, you are right, but since she is conducting official business, the water utility is also liable. This is why Hired and Non-Ownership Liability coverage is a necessity for all water utilities - regardless of whether vehicles are owned or not.



Workers Compensation insurance protects the water utility against claims for work-related injuries or diseases that are suffered by employees and in some cases contractors or subcontractors, and that are compensable by state law. Also, those water utilities which elect to not be covered by Workers Compensation insurance are not subject to the normal statutory protection limitations afforded to employers which have Workers Compensation insurance. Additionally, contractors and subcontractors who do not have Workers Compensation insurance while working for the water utility when a workplace injury or disease occurs, may file on the water utility's Workers Compensation insurance or seek compensation through lawsuits against the water utility if it does not have Workers Compensation insurance. Because of this fact, it is critical that all water utilities require proof of Workers Compensation coverage from all contractors or subcontractors performing work for the utility.

Employees who are unable to collect Workers Compensation under state law may still sue the employer for damages. For this reason, a second component of Workers Compensation Insurance called **Employers Liability** provides additional coverage for situations that are not covered by state workers compensation law including exempt employees, illegal employees, and non-compensable injuries. While there are very few exclusions under the regular Workers Compensation coverage, there are a number of exclusions under the Employers Liability coverage, including punitive damages because a worker was employed illegally, injury to an employee while illegally employed with the water utility's knowledge, damages arising out of violations of employment laws including harassment and discrimination, or fines and penalties assessed for violations of state or federal law.

Directors and Officers Liability and Public Officials Liability insurance are also common to water utilities. Regardless of the type of governing body (Board of Directors, Commissioners, Mayor / Aldermen), the board members of water utilities have certain duties and responsibilities including the following:

- Governance Duty** to define the mission, goals, and objectives of the water utility and establish the necessary policies to support the mission, goals, and objectives;
- Fiduciary Duty** of safeguarding and approving changes with the water utility's assets and ordering the required financial audits;

- ❑ **Duty of Care** to keep themselves informed and at a minimum attend board meetings and meetings of committees to which they are assigned;
- ❑ **Duty of Disclosure** to release material facts to all persons who have a right to know such facts.

Board members of water utilities may be held personally liable for acts of *misfeasance* by the performance of an act in an improper manner, *nonfeasance* by failing to perform an act required by duty, or *malfeasance* by acting illegally. Directors and Officers Liability insurance usually contains two parts. The first part provides coverage for the individual board members when they are not indemnified by the water utility. The second part insures the water utility if it has paid money to board members for personal expenses associated with a claim. Exclusions under this liability policy include board members engaged in libel or slander, those who receive personal profit or advantages (free water) to which they are not entitled, dishonest acts, failure to maintain adequate insurance coverage, causing bodily injury to another, or any pollution events.



An additional endorsement to Directors and Officers Liability insurance is **Employment Practices Liability** insurance. This insurance provides coverage for losses arising out of the wrongful hiring, termination, discrimination, sexual harassment and other employment practices typically excluded by General Liability, Workers Compensation and Employers Liability, or the standard Directors and Officers Liability policies. While policy provisions vary greatly among insurance companies, most policies cover wrongful acts committed by the employer and its employees. There are some exclusions including the following: hiring / termination practices committed with dishonest, fraudulent, criminal, or malicious intent; mass employee layoffs; similar claims reported under prior Employment Practices Liability policies; and deliberate fraud or purposeful violation of employment laws, rules, or regulations. Employment Practices Liability coverage may also be offered as a separate policy instead of an endorsement to Directors and Officers Liability policies.

The final type of casualty insurance common to some water utilities is **Commercial Umbrella Insurance**. This type of insurance provides catastrophic liability coverage to water utilities covered by other liability policies. In order for the Commercial Umbrella Insurance to cover a loss there are two stipulations. One is that the water utility must have liability insurance covering the type of loss incurred by a third party (a loss that is not excluded and is covered by another liability policy). And, that the basic



liability coverage limits have been exhausted. Lets look at the two following illustrations to understand what can't be covered and what is typically covered by Commercial Umbrella Insurance:

- ❑ **Case Study 1** - A water utility has General Liability Insurance and a Commercial Umbrella policy but does not have Commercial Auto (liability) Insurance nor Hired and Non-Owners Liability Insurance. The contract meter reader backs into the highway in his personal truck (that he uses to execute the business of the water utility) and has an accident that involves a fatality. The family of the deceased files a lawsuit against the meter reader and the water utility. Even though the water utility has a Commercial Umbrella policy, it does not have Hired and Non-Owners Liability Insurance and thus will not be provided with a legal defense nor a claim reimbursement by the Commercial Umbrella underwriting insurance company.
- ❑ **Case Study 2** - A water utility has General Liability Insurance with a \$500,000 per Occurrence limit. The maintenance crew excavated a leaking water main next to the road but was unable to complete the repairs before the end of the workday. Rather than covering the hole up or erecting adequate warning signs, flashing lights and barricades, the crew left the leak site with the intention of returning the next morning to complete the repair. Early the next morning, a school bus loaded with children and driving during inclement weather down this road crashed into the hole. Thankfully, there were no fatalities but there were a number of injuries. In the ensuing months, a number of lawsuits were filed to recover medical damages and punitive damages from the water utility. Although the water utility has a \$1,000,000 Aggregate limit, this is classified as one occurrence. If the water utility had a Commercial Umbrella policy in place, this coverage would begin after the initial \$500,000 General Liability coverage was exhausted.

5 FIVE TYPES OF CASUALTY INSURANCE

1. *General Liability*
2. *Commercial Auto Liability*
3. *Workers Compensation*
4. *Directors & Officers Liability*
5. *Umbrella Liability*

It should be noted that with both of these hypothetical case studies, the implementation of risk reduction strategies might have prevented either accident (or reduced liability). While it's impossible to eliminate either risk, a flashing dome light (barrier) on the meter reader's truck may have reduced the possibility of this accident or at least limited liability. Detailed Operation and Maintenance Procedures (policy) that address leak repair procedures, trench safety (training), and traffic barricades, signs, and warning lights (barriers) would have reduced the possibility of the accident illustrated in the second study. This further underscores the fact that while adequate insurance

coverage is essential, it should not be the sole component of your water utility's risk management plan.

Realize that frequent claims, large claims, or those claims resulting from gross negligence may result in premium increases the next time your water utility renews coverage and in some cases may result in the non-renewal of insurance. On the other hand, many insurance companies offer discounts if you practice good risk management practices including the implementation of risk reduction policies and procedures, providing employee training, and installing barriers to protect against or reduce the impact of potential risks.

CHAPTER 6

Conclusion

Every water utility is exposed to a number of risks that can result in costing thousands of dollars which may ultimately impair the mission of providing safe drinking water to customers at a reasonable and affordable price. While the last few chapters of this manual have focused on transferring these risks through contracts and most importantly acquiring adequate property and casualty insurance, it is critical that the Board, Management, and Staff of water utilities work diligently to identify, prioritize, and reduce risks and otherwise execute effective risk management practices everyday.

Ultimately, the Board has a responsibility and a duty to safeguard the assets of the water utility and in doing so should obtain the necessary property and casualty insurance to reasonably transfer risks. Hopefully, this manual and training course has helped to demystify some of the insurance terminology and has provided you with a basic understanding of the methods and the critical need for periodically assessing risks, prioritizing risk, and transferring risk. However, it can not be overstated that every water utility Board should develop a close business relationship with a professional risk manager and an attorney to provide the necessary advice and strategies to assist the utility in managing risks.

What's next and what are you going to do? You are probably curious to learn what type of insurance coverage is in place with your water utility and will be tempted to stop by the water office on your return to your community to make sure that your utility is adequately protected by commercial property and casualty insurance. But should this be your one and only task? Hopefully, you will employ some of the methods discussed earlier in this manual to assess and prioritize the specific risks facing your utility. You may want to encourage other board members, the manager, and other staff members of your utility to attend this course so that you are not the only one who is concerned about or understands the importance of risk management. Once you get other board members, the management, and staff working together on the first two steps of identifying and prioritizing risks, you may need some assistance in developing strategies to reduce risk. This is where your attorney and professional risk manager may prove very useful. Another resource that may be available is low cost or free technical assistance. Community Resource Group - Rural Community Assistance Program provides no-cost technical, managerial, and financial assistance to

community water and wastewater utilities in Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee and Texas. If we can be of assistance to your water utility as you seek to develop strategies to reduce risks including policy development, training resources, and recommendations on other barriers to risk, please contact our state office at the telephone number listed on the inside cover of this manual. In some cases your underwriting insurance company will also provide assistance with training and other incentives to encourage your utility to further minimize risks.

Eventually, you will need to assess the type and limits of existing insurance coverage for your water utility. When was the last time your property was valuated? And, who completed the valuation - was it your insurance agent or was it a professional engineer who may be more familiar with replacement costs of typical water system infrastructure? When was the last time that you received competitive quotes or bids for your commercial insurance package?

Purchasing insurance can be very stressful due to the differences and complexity of various insurance policies. Contact your state insurance commissioner's office, they are responsible for regulating insurance issues and may be able to provide information and tips about buying insurance and determining whether an agent and/or company is licensed to do business in the state.

You should also check the ratings of insurance companies you are considering purchasing insurance through. Ratings issued by the various agencies are available at most public libraries. If you contact the rating services directly by phone, you may be charged for information. A listing of some of the rating companies, their telephone numbers, and web sites are listed below:

- Moody's Investor Service (212) 553-0377
(www.moodys.com/insurance/)
- Standard & Poor's (212) 438-2400
(www.standardandpoors.com/ratings/)

And finally when comparing competitive quotes or bids for insuring your water utility, make sure that you are comparing "apples with apples" and not comparing just the cost. The best way to ensure that all of your quotes are similar in the type and limits of coverage is to specify in your request for proposals exactly what types of coverage and the limits of coverage your water utility needs. In order to do this, you should obtain a current valuation of your water system infrastructure from your engineer and discuss recommended liability limits with your attorney and professional risk manager. Make sure that if you are changing insurance carriers that your new company accepts your application before canceling (or not renewing) existing coverage.

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Section

B

LEARNING EXERCISES

LEARNING EXERCISE 1 - IDENTIFYING RISKS

Purpose: This exercise is designed to reinforce the instruction on how to identify risks that may threaten your water utility's personnel, property, or product through a small group application of the principles learned in Chapter 1 using the following worksheets provided with this exercise and your knowledge of risks facing your water utility.

Instructions: This exercise is typically best executed in a small group environment (ideally with other group members being from the same water utility) but if necessary this exercise may be conducted individually. Using the charts on the following pages, complete these specific instructions:

1. Assign monetary thresholds to the Consequence columns. First determine the maximum amount of money that your utility would (or could afford) to retain - this amount should be listed on the line between the "<\$__K" in the (1) consequence column. Next, determine the amount of money that would potentially be a catastrophe (bankrupt or significantly impair financially) for your water utility. This amount should be listed both in columns (5) and (10) on the lines in "\$__K."
2. First focus on the occurrence history. For each identified risk (and others that you list), place a "1" in the first column if the risk has never occurred during the past 10 years with your utility. If the risk has occurred between one and three times, place a "5" in the middle occurrence column. If the risk has occurred more than three times, place a "10" in the column on the right. <NOTE> If there are varying answers due to the fact that participants are representing several water utilities, use the highest number of occurrences reported by a participant.
3. After you have placed a 1, 5, or 10 in the appropriate occurrence columns, you next need to focus on the consequence columns. For each identified risk (regardless of whether there has been a historical occurrence of this risk at your water utility), estimate the loss potential associated with this risk. Understand that answers are going to vary greatly - be prepared to explain why you estimated the amount to your group and possibly to the class. Remember there are NO right or wrong answers with this particular task but come to a group consensus (just as you would need to do working at home with other team members from your utility). If the loss potential for each identified risk is less than the amount you are willing to retain, place a "1" in the first consequence column. If the loss potential is more than you are willing to retain but less than your catastrophic threshold, place a "5" in the middle consequence column. If the risk poses a catastrophic loss, place a "10" in the column on the right.

Risk Category - PERSONNEL (Board, Management, Staff)

Identified Risk	10-Year Occurrence			Consequence (Loss Potential)			Risk Priority
	Never (1)	<3 Times (5)	>3 Times (10)	<\$ __ K (1)	<\$ __ K (5)	>\$ __ K (10)	(=OXC)
Illegal Hiring Practices							
Wrongful Termination							
Discrimination							
Sexual Harassment							
Embezzlement or Fraud							
Excavation Damage to other Utilities							
Workplace Violence							
Workplace Injuries							
Robbery or Assault							
Infrequent Attendance at Board Meetings							
Fiduciary Neglect of Board Members							
Board Members Failing to Disclose							
<i>Other Personnel Risks -</i>							

Risk Category - PRODUCT (Water Quality, Quantity)

Identified Risk	10-Year Occurrence			Consequence (Loss Potential)			Risk Priority
	Never (1)	<3 Times (5)	>3 Times (10)	<\$ __ K (1)	<\$ __ K (5)	>\$ __ K (10)	(=OXC)
Source Water Contamination							
Aesthetic Complaints (Odor, Color, Taste)							
Boil Water Notices (Voluntary or Mandated)							
Coliform Occurrence Violations							
E Coli or Fecal Coliform Occurrences							
Reporting Violations							
Monitoring Violations							
Waterborne Disease Outbreaks							
Water Outages							
Low Pressure							
Inoperable Fire Hydrants							
Intentional Sabotage (Terrorism)							
<i>Other Product Risks -</i>							

Risk Category - PROPERTY (Office, Plant, System, Vehicles, Equipment)							
Identified Risk	10-Year Occurrence			Consequence (Loss Potential)			Risk Priority
	Never (1)	<3 Times (5)	>3 Times (10)	<\$ __ K (1)	<\$ __ K (5)	>\$ __ K (10)	(=OXC)
Flood							
Hurricane							
Tornado							
High Winds							
Lightening							
Freeze Damage							
Heat Damage							
Forrest or Brush Fire							
Chlorine Leak							
Other Chemical Leaks							
Vehicle Accidents							
Equipment Accident							
Fire							
Gas Leak (Butane or Natural Gas)							
Arson							
Vandalism							
Burglary							
Intentional Sabotage (Terrorism)							
Riots or Strikes							
Nuclear Power Plant RAD Release							
Power Surge, Spike, Brownout, Outage							
Earthquake (or movement)							
<i>Other Property Risks -</i>							

LEARNING EXERCISE 2 - PRIORITIZE RISKS

Purpose: This exercise is designed to reinforce the instruction on how to prioritize those risks that pose a threat to your water utility's personnel, property, or product through a small group application of the principles learned in Chapter 1 using the following worksheets provided with this exercise as well as the worksheets completed in Learning Exercise #1.

Instructions: This exercise is typically best executed in a small group environment (ideally with other group members being from the same water utility) but if necessary this exercise may be conducted individually.

1. Using the Risk Identification Tables that you worked with in Learning Exercise #1, multiply each Occurrence rating (1,5, or 10) times each Consequence rating (1,5, or 10) with each identified risk and denote the sum under the Risk Priority column at the far right of the table. Note that the possible products will be 1, 5, 10, 25, 50, or 100.
2. Using the Risk Reduction Tables listed on the following pages, denote those risks that have a priority rating of 100 in the under Phase 1. Next, list those risks that have a priority rating of 50 or 25 under Phase 2. And, list those risks that have a priority rating of 10, 5, or 1 under Phase 3. <Note> Only write the identified risks and the corresponding priority ratings in the Risk Reduction Tables for now. You will have the opportunity to complete the remaining columnar data in the next learning exercise.

LEARNING EXERCISE 3 - REDUCE RISKS

Purpose: This exercise is designed to reinforce the instruction on how to reduce the probability or minimize the impact of those risks that pose a threat to your water utility through a small group application of the principles learned in Chapter 2 using the worksheets completed in Learning Exercise #2.

Instructions: This exercise is typically best executed in a small group environment (ideally with other group members being from the same water utility) but if necessary this exercise may be conducted individually. Use the Risk Reduction Tables that you worked with in Learning Exercise #2 to complete this exercise pursuant to the following:

1. First focus on the possible risk reduction strategy columns by asking yourself if each risk can be mitigate through the implementation of policy, employee (or board) training, and/or by utilizing barriers. Place a check mark for each reduction strategy that can be used to reduce the identified risk. <Note> For those risks where a risk reduction strategy cannot be implemented to reduce the probability of risk occurrence or minimize the impact of a risk occurrence, do not check any of the boxes.
2. In the Actions to be Implemented column, write what specific policies, training, and or barriers could be executed to reduce the risks. <Note> For those risks where the risk occurrence probability cannot be reduced or the impact cannot be minimized, denote "NA" in the Actions to be Implemented column.
3. By using this month as your starting date, denote in parentheses under the Date Completed (Projected) column the deadline for actions to be completed. For Phase 1 actions, do not list a date beyond three months. For Phase 2 actions, add 6 months to this months ending date and for Phase 3 actions, add 1 year. <Note> For those risks where the probability cannot be reduced or the impact cannot be minimized, denote "NA" in the Date Completed column.

EXAMPLE

Phase 3 (Risk Priority Ranking 1-10) <i>Actions to be completed within 1 Year</i>						
Identified Risk	Risk Priority	Reduction Strategy			Action(s) to be Implemented	Date Completed
		Policy	Training	Barriers		
<i>Earthquake</i>	10				NA	NA
<i>Sabotage</i>	10	✓	✓	✓	<i>Security Policy, ERP; Security Response Training, Fences</i>	<i>(8/10/05)</i>
<i>Freeze Damage</i>	5	✓		✓	<i>O&M Policy; ERP, Heat Lamps</i>	<i>(8/10/05)</i>
<i>Power Spikes - Brownouts</i>	5	✓		✓	<i>O&M Policy; ERP, Generator</i>	<i>(8/10/05)</i>

LEARNING EXERCISE 4 - RISK TRANSFER QUIZ

Purpose: The exercise listed below and on the back of this page is designed to be a self-assessment of the knowledge that you acquired in Chapter 3 - Risk Transfer. This is an individual exercise that will not be turned in or graded by anyone but you. While you are permitted to refer to the text for answers to these questions, you are encouraged to rely on the information that you have retained. (By not referring to the manual for answers will assist you in targeting those areas where you may need to focus additional attention and study). <Note> At the conclusion of this exercise, the training facilitator will conduct a group review of each question.

Instructions: Carefully read each question, then review each possible answer below the question. Then re-read the question and choose the one (1) best answer to the question by circling the letter beside the answer.

1. There are _____ types of methods to transfer risks.
 - a. One
 - b. Two
 - c. Three
 - d. Four

2. _____ is an example of risk transfer by contract.
 - a. Insurance
 - b. Disclaimer
 - c. Risk Retention Group
 - d. Risk Purchasing Group

3. While there is usually some cost associated with risk transfers, this cost is never as high as the cost of you paying for losses associated with a catastrophic occurrence.
 - a. True
 - b. False

4. One type of classification of risk transfer by contract is the _____.
 - a. No-Blame Provision
 - b. Identity Provision
 - c. Agreement Provision
 - d. Exculpatory Provision

5. _____ provide self-insurance to members of a group.
- Insurance Associations
 - Purchasing Groups
 - Risk Retention Groups
 - Risk Transfer Groups
6. _____ obtains discounted premiums for members of a group.
- Insurance Associations
 - Purchasing Groups
 - Risk Retention Groups
 - Risk Transfer Groups
7. Insurance is effective in eliminating risks.
- True
 - False
8. When calculating premiums, insurance actuaries use the _____ .
- Law of Large Numbers
 - Law of Insurability
 - Affordability Surveys
 - Federal Insurability Act
9. Where a risk is defined as the uncertainty of loss, a Peril is the _____ .
- Result of the Loss
 - Cause of the Loss
 - Never Excluded
 - Always Excluded
10. There are four main categories or Lines of Insurance, which includes _____ .
- Life, Health, Property, and Accidental
 - Life, Accidental, Property, and Casualty
 - Accidental, Health, Property, and Casualty
 - Life, Health, Property, and Casualty
11. The amount specified by an insurance policy that the water utility agrees to retain and that is designed to limit the filing of small claims is called the _____ .
- Retainable
 - Deductible
 - Agreed Loss
 - Acceptable Loss

LEARNING EXERCISE 5 - PROPERTY INSURANCE QUIZ

Purpose: This exercise listed below and on the back of this page is designed to be a self-assessment of the knowledge that you acquired in Chapter 4 - Property Insurance. This is an individual exercise that will not be turned in or graded by anyone but you. While you are permitted to refer to the text for answers to these questions, you are encouraged to rely on the information that you have retained. (By not referring to the manual for answers will assist you in targeting those areas where you may need to focus additional attention and study). <Note> At the conclusion of this exercise, the training facilitator will conduct a group review of each question.

Instructions: Carefully read each question, then review each possible answer below the question. Then re-read the question and choose the one (1) best answer to the question by circling the letter beside the answer.

1. Property insurance is necessary with only those water utilities that own offices.
 - a. True
 - b. False
2. There are three types of Peril Coverage available to water utilities that include _____.
 - a. Basic Coverage, Broad Coverage, Special Needs Coverage
 - b. Basic Coverage, Broad Coverage, Special Form Coverage
 - c. Commercial Coverage, Governmental Coverage, Non-Profit Coverage
 - d. Municipal Form, Utility District Form, Association Form
3. Property Insurance claims are paid by two methods that include _____.
 - a. Actual Cash Value and Replacement Value
 - b. Actual Cash Value and Depreciated Cost
 - c. Basic Coverage, Broad Coverage, Special Form Coverage
 - d. Commercial Coverage, Governmental Coverage, Non-Profit Coverage
 - e. Municipal Form, Utility District Form, Association Form
4. Earthquake and Flood perils are typically excluded in Commercial Property Insurance policies but may be purchased separately.
 - a. True
 - b. False

5. Replacement Value coverage requires minimum coverage at least equal to:
- a. 50% of depreciated value of property
 - b. 80% of depreciated value of property
 - c. 50% value of property
 - d. 80% value of property
6. If your water office building's depreciated value is \$95,000 and the replacement value is \$100,000 and sustains a total loss while your utility is covered by Replacement Value property coverage with a limit of \$45,000, how much could you expect in reimbursement if your deductible is \$1,000?
- a. \$95,000
 - b. \$94,000
 - c. \$45,000
 - d. \$44,000
7. Damage to your water utility's service truck is normally covered by _____.
- a. Municipal Automobile Coverage
 - b. Commercial Auto Insurance
 - c. General Liability Coverage
 - d. Contractors Equipment Insurance
8. Damage to your water utility's backhoe is normally covered by _____.
- a. General Marine Insurance
 - b. Commercial Auto Insurance
 - c. General Liability Coverage
 - d. Commercial Inland Marine
9. The loss of assets through embezzlement is covered by _____.
- a. General Liability Insurance
 - b. Commercial Crime Insurance
 - c. Employee Loss Sustained Insurance
 - d. Theft Insurance

LEARNING EXERCISE 6 - CASUALTY INSURANCE QUIZ

Purpose: This exercise listed below and on the back of this page is designed to be a self-assessment of the knowledge that you acquired in Chapter 5 - Casualty Insurance. This is an individual exercise that will not be turned in or graded by anyone but you. While you are permitted to refer to the text for answers to these questions, you are encouraged to rely on the information that you have retained. (By not referring to the manual for answers will assist you in targeting those areas where you may need to focus additional attention and study). <Note> At the conclusion of this exercise, the training facilitator will conduct a group review of each question.

Instructions: Carefully read each question, then review each possible answer below the question. Then re-read the question and choose the one (1) best answer to the question by circling the letter beside the answer.

1. Because of recent tort reforms and sovereign immunity, Casualty insurance is not a critical necessity any longer for water utilities.
 - a. True
 - b. False

2. There are two types of coverage forms with most casualty insurance which are _____.
 - a. Claims-Made and Occurrence
 - b. Claims-Made and Liability
 - c. Occurrence and Retroactive
 - d. Occurrence and Liability

3. There are two types of liability limits with most casualty insurance which are _____.
 - a. Occurrence and Aggregate
 - b. Occurrence and Premises
 - c. Minimum and Maximum
 - d. Standard and Deductible

4. Casualty insurance that covers the liability business exposure of a water utility both on premises and off-site is _____.
 - a. Commercial Liability
 - b. Commercial General Liability
 - c. Business Liability
 - d. Business General Casualty

5. USDA-Rural Development requires its water utility borrowers to have certain types of insurance coverage.
 - a. True
 - b. False
6. Liability exposure of contractors and subcontractors performing work for the water utility is covered by what special endorsement?
 - a. Contractors Liability Endorsement
 - b. Contractors and Subcontractors Endorsement
 - c. Owners and Contractors Protective Liability Endorsement
 - d. Owners and Third Parties Liability Endorsement
7. If a water utility does not own and operate vehicles, it does not need any type of automobile liability coverage.
 - a. True
 - b. False
8. An element of Workers Compensation insurance policies that protects the water utility against additional claims for non-compensable injuries is _____.
 - a. Umbrella General Insurance
 - b. Workers Compensation Umbrella Insurance
 - c. Employers Practices Insurance
 - d. Employers Liability Insurance
9. Board Members of water utilities can be held personally liable for failing to perform their governance duties or fiduciary duties and failing to attend board meetings or honestly disclose facts to those parties entitled to such disclosure.
 - a. True
 - b. False
10. An endorsement to Directors and Officers Liability insurance that covers hiring practices, harassment, and discrimination is _____.
 - a. Employers Liability Insurance
 - b. Employers Casualty Insurance
 - c. Employment Practices Liability
 - d. Employment Liability Insurance

