

CHAPTER 4: IDENTIFICATION OF LOSS EXPOSURES

IMPORTANCE OF IDENTIFICATION PROCESS

Risk management begins with the identification process. Unless there is recognition of risk, one cannot take appropriate measures to deal with it. An organized approach to identify risks is one of the most important responsibilities of the risk manager.

Insurance evolved as a means of providing protection for known and commonly understood risks. However, a key point of risk management is that insurance may not be the best way to deal with a risk in terms of either cost or the protection afforded.

It is important to keep in mind that risks are not static but are subject to change in many ways. Examples of how risk can change include the following:

- Introduction of new equipment
- Automation
- Introduction of new products and services
- New methods of loading or unloading
- Dealing with new products, cargo, or vessels
- New laws and regulations
- Court decisions
- Changing social attitudes
- New employees and customers
- New construction, remodeling, and renovation

The element of change requires that the identification process be ongoing. The risk manager must be familiar with and knowledgeable about the port's basic services and facilities, etc., and also must be aware of new exposures to loss.

Prior to the development of risk management as a recognized method for dealing with the risk of

loss, only obvious exposures were likely to be given consideration, and, there was no organized approach to identifying and handling risk. The risk of loss is not always readily apparent. Because of this, a variety of techniques are required. The following methods of risk identification can be used.

Inspections

First hand knowledge of a port's facilities and properties is essential. This knowledge can only be obtained by a practical familiarity with what exists in the way of physical assets and how these assets are used.

A helpful tool to use in an inspection is a map of the property showing not only the port itself but also adjacent and surrounding property as well. Spatial relationships are important, such as the proximity to a facility of hazardous nature.

Inspection will reveal physical characteristics such as:

- Type of construction (frame, fire resistive, windstorm resistive, etc.)
- Stored materials or inventories (flammable, explosive, pollutants, products subject to spoilage)
- Housekeeping
- Security
- Equipment guarding
- Exposures to injury of employees and the public
- Traffic exposures (ship, rail, vehicular)
- Fire protection

Internal Records

A port's internal records are a valuable source of information useful to the risk identification process.

Financial records and budgets are helpful in a number of ways. Some of the questions which are prompted by them can include: how much cash is on hand at any given time? Is it susceptible to theft? How is it transported to the bank? If by armored car, is the armored car company responsible for the full amount of any loss? The cash exposure may or may not be significant, but all businesses deal with checks. Are incoming checks recorded in a manner that would make it possible to obtain replacements or reimbursement if the originals were lost, stolen, or destroyed? Are accounts receivable backed up to allow reproduction?

The income section of a financial report, if in sufficient detail, will highlight which operations, activities, or services generate the most revenue, requiring treatment of business interruption or extra expense risks.

Financial statements will assist in evaluating the capability of a port to self-insure loss exposures. A healthy cash flow and surplus position can help in the determination of the advisability of self insurance.

Other important sources of information are asset records which show the location and original cost of all real and personal property. Copies of all requests for purchase and disposal of property can be routed through the risk manager to provide an additional check to ensure that all new property is being included, and that property which is sold or otherwise disposed of is reflected in the insurance records. Inadequate asset records will also make proving a property loss difficult.

Copies of all contracts should also be routed to the risk manager for review to determine exposures from outside organizations. The decision to retain or transfer risk can then be made.

Contracts may also indicate the existence of hazards not previously know. It is preferable, but not always practical, to have the risk manager review contracts prior to their execution. This will allow for comment to legal counsel or finance on issues that are important from a risk management viewpoint and which may not otherwise be given the consideration they deserve.

Minutes of meetings of the port commissioners are an invaluable source of information regard-

ing many things affecting the port but primarily as respects plans for future expansion, new activities, new operations, and new construction, purchase of major new assets, other major expenditures, etc. Minutes will also provide timely notice regarding planned discontinuance of operations and activities.

Loss runs (all insurance coverages) properly maintained and organized, are critical in identifying loss frequency and severity. The risk manager can then initiate appropriate loss prevention measures.

Department manuals (human resources, accounting, and operations) often give insight into certain potential problem areas. For example, if policies are written, they should be enforced, otherwise continued nonenforcement may be interpreted as a practical repudiation of policy. Also, there should be no formal, oral statements permitted that are inconsistent with written procedures and policies, particularly as regards human resource matters.

Checklists or survey questionnaires can often be helpful in pointing out exposures that are overlooked. A number of sources have developed "exposure checklists or questionnaires," which are sometimes lengthy, multiple page outlines for possible loss exposures. An exposure identification questionnaire developed specifically for ports can be found in Appendix C of this *Guidebook*. Checklists have inherent limitations in that they cannot be relied on to identify your complete exposure to loss. While the operations of ports are similar, each has its own unique activities and operations which generate exposures to loss.

Flow charts are diagrams that picture the flow of goods through the various parts of a facility. These charts are critical to maintaining continued operation and gauging contingent business interruptions.

Employees are a good source of information. The risk manager should become acquainted with a broad spectrum of employees, particularly key persons, in various operations, divisions, departments, etc. On a regular basis, questions should be asked about their activities, problems, concerns, and any information that may be useful in identifying risk.

External Sources of Information

Changing technology, business practices, law, government regulations, etc., all compound the problem of risk identification. The risk manager should attend relevant seminars and workshops. Examples of organizations that sponsor such meetings include:

- *Risk and Insurance Management Society (RIMS)* (see Appendix A, page A--9), whose membership is composed of full-time and part-time risk managers. Meetings are held both at local chapters and at the annual national conference. This organization also promotes meetings with special industry groups, including "Ports and Marine Terminals."
- *Public Risk Management Association (PRIMA)* (see Appendix A, page A--9), is a national public risk management association which promotes effective risk management in the public interest as an essential component of public administration.
- *American Management Association* conducts a variety of meetings throughout the year on many aspects of insurance and risk management. Meetings are held at different locales.

Other organizations - These include the National Fire Protection Association, the National Safety Council, and the National Maritime Safety Association. National and regional port associations often include insurance and risk management topics in their meetings. A number of associations, such as the American Association of Port Authorities (AAPA), the Pacific Coast Association of Port Authorities (PCAPA) and others, have standing risk management committees.

Even though many ports do not have a full-time risk manager, it would be worthwhile for ports to contact these organizations and ask to be placed on their mailing lists to receive notice of seminars and meetings. Additional benefits of attending such meetings is the opportunity to meet others with like interests and to exchange information which can often be very helpful in designing and improving your own program.

Risk identification can be augmented by having knowledge of current problems, industry changes, losses, etc. Legislative enactments, such as those affecting responsibility and liability for pollution and its clean-up are a good example. Useful information can be obtained from the referenced books and periodicals listed in Appendix A (page A--17).

Outside Specialists

Professional risk management consultants can provide meaningful services to both part-time and full-time risk managers. A common service is the audit, review, and evaluation of an organization's overall exposures and programs. The periodic use of outside consultants for assistance is practiced by a growing number of organizations.

An insurance agent or broker can also prove to be a helpful resource. These, at times, can be more insurance oriented since many agents and brokers have little practical experience with risk management concepts and practices.

There are a wide variety of specialized consultants that can also be used for specific needs. These include such specialists as computer and other security specialists, safety and industrial hygienists, cargo handling loss prevention specialists, fire protection engineers, etc.

COMMON EXPOSURES AND RISKS

Ports represent very specialized business enterprises. While they vary in size, methods of operations, facilities, and in many other areas, certain loss exposures are common to almost all ports. Additionally, many port loss exposures are of a type that are common with many other organizations.

It was previously stated that the risks of loss can be categorized under three general categories:

- Property Loss
- Liability Loss
- Personnel Loss

In this section, we will provide a discussion and examples of what types of risks are included in these three classes.

Liability To Others

Ports are faced with a multitude of possible liability claims because of injury to other people or damage to their property. Some of these exposures are unique to ports and marine operations, while others are not. This discussion does not attempt to comment on the exposures in any particular order of importance. In many cases, the difference between a small and a large liability claim is a matter of luck, or of the opinion of a particular jury or judge.

Public Officials Liability

Private industry has long recognized the need to protect the interests of those individuals who run a company via indemnification of losses and/or directors and officers liability insurance.

Most ports are public entities but the same need is obvious. Public Officials liability insurance is designed to provide similar protection to port officials and employees for their liability arising out of management of a port.

Coverage includes the cost of defending a claim, a port's obligation to reimburse officials and employees for costs or judgments incurred and, where no reimbursement is required or permitted, to cover the personal liability of officials and employees for their management activities.

Common areas of claims or suits to which officials are exposed include:

- Conflict of interest
- Failure to follow legally mandated procedures
- Breach of labor regulation
- Purchasing practices
- Condemnation or sale of land
- Conspiracy or collusion
- Unfair trade or labor practices
- Breach of contract

Historically, these causes amount to over 65 percent of claims or suits against public entities.

Employment Practices Liability

Claims alleging sexual harassment, discrimination, wrongful termination, and many other employment-related torts are being filed in escalating numbers. Although this is a relatively new exposure, it has great loss potential. There are currently more than 25 federal and state laws, together with hundreds of regulations, applying to almost every workplace relationship. Few employers and employees understand their rights in the workplace.

For example, the precise meaning of provisions of the federal Americans With Disability Act requiring "adequate access" and "reasonable accommodations" are being interpreted through litigation. Also, compliance with the federal act does not assure compliance with conflicting state and local regulations.

While Employment Practices Liability insurance is available, underwriters require evidence that employers have developed and are consistently enforcing fair employment practices.

Bailments

Bailments refer to a special type of legal liability. In the case of a port, it is mainly reflected by the warehousemen's liability for damage to goods left in the port's care, custody, or control. Other exposures are represented by any type of property that is in the port's care, custody, and control.

Many ports have broadly worded tariff agreements under which customers who use the port facilities must absolve the port from any loss or damage to the customers' property. The value of these agreements is questionable to the extent the loss or damage is attributable to negligence of the port. The courts generally hold that ports may not contractually transfer their sole negligence. In other words, regardless of what a tariff may say, if a customer sustains loss or damage and can show the cause of such to be negligence of the port, the port may be held responsible. Since ports typically have substantial warehousing and storage facilities, they should recognize that a very large potential for liability exists should property be damaged because of their negligence (such as by a fire that originates from a negligent cause).

Common carriers are another type of bailee. For example, ports that operate their own railroad would have this exposure. In most cases, a common carrier retains absolute liability for damage to goods being carried, except for damage attributable to "acts of nature" or "the common enemy" (war-like acts and revolutions). Governments usually control the ability of common carriers to limit their liability by contract via the control exercised over rates and terms of shipment.

Motor Vehicle Liability

The use of automobiles is a common exposure to almost every business. To the extent that the operation of a port automobile results in injury to others, a port will no doubt be liable for resulting damages. In addition to the obvious exposure represented by owned vehicles, a port can incur liability from the operation of non-owned automobiles such as leased automobiles, rental automobiles (should the renter's insurance be inadequate, deficient, or non-existent), the personal automobiles of employees used on port business, and automobiles of contractors or sub-contractors.

Exposures may also arise out of no-fault laws and uninsured/underinsured motorists' laws.

Product Liability

Anyone who makes, sells, or distributes products to be used by others is susceptible to liability if the product is defective, or not fit for its intended use. Ports can have a serious product liability exposure in some instances. An example is a port that in some way processes bulk grain. To the extent the grain may be contaminated, significant damages may result if the grain is then used in food products or animal feed. The exposure related to product liability can be further complicated if the product is exported to a foreign country. In that case, the port is faced with foreign laws and practices, which can be totally different from those of the U.S. In some states, equipment designed or manufactured by an employer could allow the injured employee to bring suit under product liability.

Contractual Liability

The risk of loss arising out of a particular undertaking can be transferred from one party to

another via contract. Contractual transfer of risk and the assumption of risk are commonplace occurrences in the business environment.

A port is responsible for its own negligent acts and should avoid assuming contractually the responsibility of others, particularly those for whom they provide services or the use of port facilities.

Application of this principal is sometimes not possible or practical because of business or other overriding reasons, especially where a port is doing business with another governmental body, a valued customer, a local or specialized contractor. In such instances, the port may be obliged to accept the transfer of liability because it wants or needs a particular unique service, or because a firm will not do business on any other basis. However, as a matter of policy, a port should attempt to eliminate contractual assumption of risk whenever possible. Where there is leverage, efforts should be made to transfer risk to the other contracting party.

All matters pertaining to contractual transfer of risk should be reviewed by legal counsel and others who are familiar with legal and business implications of the contract.

In some instances, the risk assumed in the contract will explicitly identify primary exposure areas. An example of this would be a construction contract for a new dock, where the contractor is required to specifically assume liability for bodily injury and property damage to others, and to his employees, arising out of the performance of the work.

In other cases, the potential exposure may be latent, due to the fact that the contract is silent in a particular area. An example of this would be where a port hires a helicopter to photograph certain port-owned facilities along with adjoining neighboring property, and the rental agreement is silent as to responsibility for injuries or damages arising out of use of the helicopter. It is important that exposure to a port should be specifically identified and analyzed by those who are familiar with both the legal and risk management implications of a contract to determine what the exposures are, and which exposures have been assumed or transferred.

Liabilities are inherent in a wide variety of activities and services related to contractual agreements, and care should be taken to see that a port is properly insulated against liabilities that should have been clearly assumed by the other party to the agreement. Contractual risk assumption or transfer can occur under a wide variety of agreement including:

- Construction Contracts
- Lease Agreements
- Purchase Orders
- Rental Agreements
- Maintenance Contracts
- Service Agreements
- Warranties
- Vendors
- Mutual Aid Agreements
- Verbal Agreements
- Contracts of Sale
- Charters

The most commonly found example of contractual transfer of risk for ports is in the port tariff. A landlord typically has only minimal liability for damage to ships or injury to stevedores or crew during the loading and unloading process because the tariff makes the user of the port facilities responsible for such damages.

Aircraft Liability

Liability related to use of aircraft is comparable to that under automobile insurance. A port does not have to own an aircraft to incur liability. Rental, charter, or use of any non-owned aircraft on behalf of a port may result in liability should the aircraft injure persons or damage property. Additionally, the use of port property as a landing area (heliport) or hangar facility can result in liability to an aircraft owner or operator similar to the exposures under garage or garagekeepers insurance.

Watercraft Liability

As with automobiles and aircraft, a port may incur liability from either owned or non-owned vessels. Port vessels can be involved in occurrences with other vessels or property resulting in injuries to both the port's crew and third parties as well.

Liabilities may arise from pollution situations and for removal of wrecks that block or impede navigation. A port with a fireboat(s) may also be exposed to liability from fire fighting activities.

Pollution Liability

Exposures can vary depending largely on whether or not a port handles or stores petroleum, flammable or hazardous materials, the volume of such goods handled, and the potential they pose for pollution and contamination. Pollution liability can be a gradual occurrence over a period of time such as leakage from a storage tank or sudden or accidental, such as a fire, explosion or tank collapse. Required clean-up costs can make up a significant portion of pollution liability claims. Exposures may exist from old or prior uses of a port's property. Remediation costs can be substantial.

Pollution liability can be based on common law, the Federal Water Pollution Control Act of 1972 and its amendments in the Clean Water Act of 1977; the Oil Pollution Act of 1990; the Clean Air Act of 1970 and its 1990 amendments; the Emergency Planning and Community Right-to-Know Act of 1986; and the Noise Control Act of 1972 and other state or federal statutes. In addition to pollution losses arising from the discharge, claims for disposal or seepage of contaminants into or upon land, water, or air, can be based on the generation of smells, noise, vibration, light, or other sensory phenomena.

Professional Liability

A growing area of liability exposure is that relating to the errors or omissions of employees acting in a professional capacity. In these instances, the employee and port may both be held responsible, the employee directly and a port vicariously.

Professional liability insurance should be considered for the following professions:

- Health care professionals
- Accountants and financial analysts
- Lawyers
- Surveyors
- Engineers
- Non-employee trustees of benefit plans
- Consultants
- Police or harbor patrols
- Fire departments
- Pilots
- Harbor masters

The liability of accountants, financial analysts, lawyers, surveyors, or engineers will generally be minimized by the fact that they are not in public practice. As long as the port is the only organization to which they provide their professional skills they are relatively shielded from liability claims – so long as the port itself chooses to absorb their mistakes (if any) as a business risk. Outside counsel, of course, should rely on its own professional liability insurance.

Ports with their own police, guard, or security are exposed to claims for such acts as false arrest/detention, malicious prosecution, libel, slander, wrongful entry/eviction, assault-battery, violation of civil rights, and abuse of prisoners.

Fire fighting departments can also incur liabilities such as when they are allegedly negligent in their fighting of a fire (improper equipment, faulty equipment, failure to recognize fire fighting needs for special exposures, etc.).

Completed Operations Liability

This is a stand-alone companion coverage to Products Liability. Completed operations liability includes bodily injury or property damage arising out of work completed by or on behalf of a port after the acceptance of the work or after it is put to its intended use.

Personal Injury Liability

Personal injury liability claims can arise out of a variety of allegations including libel, slander, defamation of character, false arrest or imprisonment, malicious prosecution or invasion of the rights of privacy.

Fiduciary Liability

Passed in 1974, the Employment Retirement Income Security Act (ERISA) deals primarily with employee welfare plans. The Act holds the trustees of these plans to the standard of an ordinary, reasonable, and prudent expert. Reliance upon outside, professional advice is not a defense.

Employee Benefits Liability

This is often confused with Fiduciary liability. Employee benefits liability refers to the common law liability that can arise out of errors or omissions in the administration of the port's employee benefits programs. These can result from improper advice, mistakes in enrollment, errors in counseling as to plan options, and from other acts or failure to act.

Joint Ventures

Ports can become exposed to risk arising out of activities of others when they participate in joint ventures. A joint venture may involve a regional security or fire fighting organization, joint ownership or operation of special loading and storage facilities, joint operations of railroad facilities, etc. To the extent the written joint venture agreements establish liabilities through hold harmless and indemnity agreements or insurance provisions, these must be reviewed to determine a port's liability exposures. Also, a port can find itself exposed to significant unknown risk when a joint venture agreement does not address these important subjects.

Wharfinger's Liability

Docks and wharf owners have a recognized liability to provide for safe berthing of visiting vessels. They must exercise care to protect clients' property from damage from causes which a port can reasonably control

Ports, in general, rely heavily on their tariffs and hold harmless and indemnification provisions to insulate and protect against claims involving property damage to vessels, cargo, and bodily injury to crew, stevedores, etc. To the extent that a port does not negligently contribute to a loss, such provisions may be sound and reliable. However, in any claim or loss situation where a port is judged negligent, injury and property damage liabilities can be substantial.

Mutual Aid Liability

Ports will, at times, participate in mutual aid agreements with other organizations. These agreements will most often involve the areas of fire fighting, fire inspections, hazardous waste material handling, oil spill clean up, and police activity. Care should be taken to structure the agreement to minimize potential liabilities. For example, a mutual aid agreement with a nearby chemical complex for fire fighting may be sound and desirable. However, there should be adequate and regular training of a port's fire fighting personnel in any special or unique fire fighting requirements that may be present at the chemical complex. Otherwise, improper fire fighting could result in a claim for damages against the port.

Charterers Liability

Ports, from time to time, charter watercraft. This can involve the charter of a dredge, a floating crane or pile driver, a temporary replacement for a police or fire boat, or a passenger boat to take people on a tour of port facilities (such as might be done on completion of a new important addition to the port's facilities or for a special event). The usual liabilities exist in such situations (potential for damage to the vessel under charter, damage to property of others, injury to employees, and injury to others). Particular care should be exercised in those cases where the vessel is chartered with captain and crew. In these cases, the port can still be held liable for claims arising out of use of the vessel. Hold harmless and insurance requirements contained in the charter agreement should be reviewed carefully and evidence of insurance obtained from the charter operator.

Liability to Employees

Workers' Compensation, Other Statutory Liabilities, and Employers' Liability

Every employer is exposed to the liability inherent in work related employee accidents or occupational illnesses. These are typically "no fault" situations where the employee does not have to prove negligence on the part of a port. The employee must establish only that the injury in an accident arose out of employment.

The employer's statutory obligation in most cases is to provide for all required medical care, disability payments for wage loss, and death benefits.

There are many different laws applicable to employee injuries. Each state has its own workers' compensation law and the scope of benefits varies from state to state. In addition, depending on the circumstances of a given injury, federal workers' compensation statutes may apply. The two federal laws that may apply to a port's employees are the Federal Longshore and Harbor Workers' Compensation Act (USL&H), and the Jones Act.

Except for employees of governmental bodies (who are specifically exempted from the USL&H), any employee working around navigational waters may fall under USL&H. These benefits are typically substantially higher than state workers' compensation benefits.

If a port owns vessels and employs crewmen, it may be subject to the Jones Act, which imposes the obligation on the employer for transportation, wages, maintenance and care for disability, or illness incurred by employees on the vessel.

General maritime law may also be applicable should a port owned or operated vessel be found unseaworthy, after injury to a crew member. Unlike state workers' compensation acts where liability is limited, the Jones Act is a negligence type act without statutory limitations for injuries or medical benefits. In such circumstances, the crew member has the right to bring action directly against the vessel and any liability that exists is imposed against the vessel, rather than the port (*in rem* actions).

Employers' liability claims result from injuries not included under the jurisdiction of a state or federal compensation act. Employers' liability claims are not common, but they do occur. Employers' liability claims can result from such occurrences as illegally employed minors, suits from spouses for loss of consortium, and employees of third parties working for a port where there is a contractual assumption of liability by a port.

Employers' liability claims can also arise out of dual capacity situations. These arise when an employee is also a "consumer." The allegation is that, as a consumer, an employee should be entitled to sue as a consumer with employer immunity waived. Dual capacity claims are an area of concern to employers. However, as with most employers liability claims few, if any, are successful.

The Occupational Safety and Health Act (OSHA) or similar state statutes are designed to ensure a safe work place for employees. While not directly related to liability for employees, they do create liabilities for employers, typically in the form of costs for both compliance with regulations and in fines and penalties for failure to meet required safe working conditions. Attention to OSHA requirements is a prudent application of sound risk management practices.

Terminal Operators Liability

Like any other business enterprise, a port is exposed to losses from the existence of its premises and those operations conducted at and from those premises. All other exposures to loss emanate from the port environs and operations thereon.

Exposures exist from bodily injury and property damage to the general public, visitors, contractors, and others working at port facilities, vessels and their cargo, and surrounding property. Insurance normally covers (1) liability from the premises hazard and operations necessary or incidental thereto, (2) vicarious liability from the operations of contractors or sub-contractors, and (3) liability assumed under contract, products, completed operations, personal injury and the ownership, operation, maintenance, loading or unloading of watercraft.

Garage Operations

All ports have parking facilities for employees, clients, visitors, and others with business at the port. These require no special treatment other than the care exercised at all port facilities.

Some ports have paid parking areas and some even provide valet parking. These activities are outside the normal scope of a port's operations and offer unique exposures to loss, which must be considered.

Park and lock facilities create a situation requiring a duty to warn of dangers to the business invitee. Failure to provide normal security or allowing parking in dangerous or unsuitable areas will create liability exposures.

Valet parking can also create a situation which requires a higher degree of care, including protection from harm, for the invitee.

Also, exposures exist from the operation of automobiles resulting in bodily injury or property damage to others and damage to the automobile itself.

As respects damage to automobiles belonging to others, for which a port is providing parking facilities, exposures arise from collision of the automobile and comprehensive perils such as windstorm, fire, theft, vandalism, glass breakage, flood, etc.

Exposures must be measured in terms of the value of individual automobiles and the aggregate value of all automobiles at risk from a single occurrence.

Then, the decision to treat collisions or comprehensive exposures separately or together is required. Normally, collision loss involves single automobiles and may be considered for self-insurance treatment.

Comprehensive exposures involve many automobiles exposed to the same loss and can be significant. Insurance with an acceptable occurrence deductible is prudent.

If the decision is made to insure, then two forms of "Garagekeepers" coverage are available:

- 1) Direct Damage – payment is made without regard to liability and may be written as excess of an owner's own insurance (covers

the owner's deductible) or as primary insurance without involving the owner's insurance.

- 2) Legal Liability – provides defense to a port and will pay only if liability is imposed.

Damage to Owned or Leased Property

All ports have the loss potential associated with damage to, or destruction of, owned or leased property. The obvious loss exposures are those related to buildings and their contents, to equipment, and to vehicles. These classes of property are all readily insurable. We will comment in this section on some of other property risks to which a port is exposed.

Piers, Wharves, and Docks

These are common to all ports. However, they are often not insured. Flood damage, collapse, wave damage, slippage of pilings, damage or loss of pilings below the water line, unreported dock damage (such as by vessel collision), and earthquakes are all examples that are typically not insured.

Electronic Data Equipment and Media

Loss exposures in this area are often uninsured or overlooked. Equipment should be both located above the ground floor to protect against water damage and located in non-combustible buildings. Special hazards include possible power surges, short circuits, damage caused by dampness, dryness or extremes of temperature (such as might occur through failure of an air conditioning or heating system), and electronic or mechanical failure. Media can be subject to accidental erasure, to magnetic injury, and to damage resulting from breakdown or malfunction, in addition to the more obvious loss exposures such as fire and other standard causes of loss.

Storage Tanks

These are often not insured if constructed of metal or concrete. One could easily believe that there is only minimal chance of loss, particularly if no flammables or caustics are being stored. However, storage tanks are susceptible to loss

from collapse, vehicles, vessels, and from such incidents as tornadoes, hurricanes, and earthquakes. Including such assets in an overall property insurance program is generally worth considering.

Boiler, Machinery, and Equipment Breakdown

Machinery and equipment breakdown often results in significant repair costs. Large transformers, motors, air conditioners, cranes, electric control panels, compressors, pump generators, and other equipment can fail, breakdown, or be subject to electric injury. Boilers and other pressure vessels are subject to cracking and explosions where mechanical and safety controls fail or malfunction.

In addition to damage to the equipment itself, explosions create potential exposures for damage to surrounding equipment as well as buildings housing the boilers and machinery. Consequential loss exposures frequently far exceed costs associated with repairs to boilers, machinery, and equipment. Objects of small value can cause losses far in excess of the value of the object. A small cooling fan which breaks down can cause failure of a much larger or more complex piece of equipment, resulting in a sizable loss.

Mobile Equipment and Vehicles

Railroad switch engines and cars, cranes, trucks, loading and unloading equipment, ship trimming equipment, bulldozers, and other similar types of equipment are by their nature usually not readily susceptible to severe damage as they are generally of heavy construction. In some cases, the loss of a single piece of equipment may not be significant. However, a major loss occurrence involving a number of such items in one incident can result in a substantial expenditure for repairs or replacement equipment. Explosions, fires, floods and hurricanes all can cause significant losses to such equipment.

Fire Sprinkler Leakage

Warehouse and storage facilities often have automatic sprinkler systems for fire protection. Whenever a facility has sprinklers, the exposure

to water damage from accidental discharge, or rupture of the system, is present. Coverage for such damage is available by endorsement to property insurance policies. It should be noted, however, that standard sprinkler leakage coverage includes only the water pipes and heads of the system. Large sprinkler leakage losses have resulted from breakage of underground feed mains. Without specifically covering the feed mains as well, such damage would not be insured.

Bridges

Many ports own and operate bridges as part of their normal operations, and, many are served by bridges owned and operated by others (authorities, municipalities, private companies).

Usually, bridges over navigation channels will be designed to avoid impeding navigation. These can include lift bridges, draw bridges, and swing bridges.

A port must consider not only exposures of direct damage to the bridge itself but also exposures from mechanical breakdown or damage to the mechanism which operates the bridge.

Loss exposures exist from the cost of repairing or replacing a bridge, the cost of repairing or replacing machinery, gears, etc., and lost revenues from the inability to move either vessels or land vehicles through or over a bridge.

If a bridge becomes inoperable or unusable, consider the alternatives available. Are there alternative routes to move traffic, can vessels be berthed at other piers or docks, or can traffic be diverted to other ports? Crisis management is a must if bridges are an essential part of a port's operation.

Boats and Barges

Ports generally own some watercraft, which may be small and of low value. Physical damage to these type boats, such as those used for inspection of docking areas and vessels, or to take soundings, are probably well suited to self-insurance. However, larger vessels of significant value are typically insured. Care should be taken to be sure that all special outfitting or equipment that is part of a vessel (cranes, com-

pressors, pumps, tanks, etc.) are included in a vessel's total value for insurance purposes.

Locks

Some ports may own locks as part of their facilities. The most obvious exposure is that related to collision from vessels. Floods can also damage locks if the flood water is of sufficient volume and strength. Where an exposure exists, a decision to insure or retain the risk must be considered.

Radio Masts and Antennas

Ports will sometimes have a communications center that includes broadcasting and receiving antennas. Masts and antennas can be damaged by lightning, wind, and other perils. When masts and antennas are of more than incidental value, insurance should be considered. Antennas generally are not covered by standard insurance policies without special endorsement.

Valuable Papers and Records

Ports will, at times, have what are considered to be valuable papers and records. These are records that are not maintained on electronic data media (discs, tapes, etc.). Examples include blueprints, deeds, engineering drawings, maps, abstracts, leases, etc. The cost to reproduce such documents, if lost or destroyed, can be significant. Standard policies provide small sublimits, if at all. Reproduction before a loss is the best insurance along with safe storage. Where neither is practical, securing insurance coverage should be considered.

Accounts Receivable

Destruction of accounts receivable represents a special loss exposure from the inability to collect or even know the amount of moneys owed by customers. In addition to loss of revenue, a port can have additional costs including:

- Interest charges on loans to offset the revenue lost;
- Higher than customary collection expenses;
- Expenses incurred to reconstruct, to the extent possible, the records of accounts receivable.

Crime

Loss exposures from crime arise from two sources, employee dishonesty and third party theft including burglary, robbery, pilferage, forgery, etc.

Third party losses are usually immediate and easily discovered. Employee losses are more insidious and can occur over a long period of time. Embezzlement, check kiting, cash or inventory pilferage are difficult to detect and can result in a large aggregate total although each transaction is small.

When considering insurance, the amount of coverage for third party theft of money, securities or other property, the amount at risk at a given time is the proper amount to be insured. Employee dishonesty limits are more difficult to measure because of the time over which losses can occur.

The best protection is the proper application of security, physical protection, internal controls and procedures and audits.

Loss of Use of Property

Loss of use of property can result in both direct and indirect losses. A direct loss includes the loss of revenues resulting from damage to or destruction of a revenue-producing facility or assets. An indirect loss could include extra expenses incurred to continue operations such as employee overtime to carry out necessary functions manually, air freight, rental expenses for temporary equipment.

The "loss of use" exposure is referred to in the insurance business as "Time Element Risk," as all such losses are related to the time period for which there is loss of use.

All ports are subject to varying degrees of the "loss of use" exposure. The measure of exposure is the amount of lost profit and continuing expenses, or extra expense incurred in operating alternative systems, or a combination of both during the period that damaged facilities are being repaired or replaced. These also include extraordinary expenses incurred in expediting the return to normal operations.

Channel Blockage

This can result from both direct and indirect causes including the sinking or stranding of vessels, weather related incidents affecting the ship channel (silting, shifting, etc.) or "Humpfrey the Whale" type incidents (a lost whale in the Sacramento ship channel forced closure of the channel during rescue operations).

Damage to Real and Personal Property

Any part of a port's facilities (docks, warehouses, silos, cranes, conveyor systems, storage tanks, etc.) is at risk of damage or destruction. Likely events include any of the perils that can damage property, such as fire, wind-storm, explosion, flood, earthquake, vessel collision, etc. Business interruption loss is a consequential exposure resulting from damage to real and personal property.

Facilities Leased or Rented to Others

Many ports operate in a landlord capacity where land, warehouses, and docks are leased to others. In such cases, the potential "loss of use" exposure is generally governed by the terms of the lease or rental contract. If a port's contract requires continued payment of rent even though the property may be severely damaged or destroyed, then there may be little or no business interruption exposure to the port. However, typically, such contracts will contain clauses that cancel the obligation to continue rent payments because of damage to the facilities from "acts of God" or other causes. Care must be taken to determine if an exposure presented by any rental or lease agreement terms or conditions present risk of loss to a port.

Consequential Loss

Ports with warehouses for temperature/humidity controlled goods have a special exposure from interruption of refrigeration resulting in spoilage of stored goods.

Also, certain products may be stored in bulk tanks where the contents must be kept at fixed temperatures to allow for pumping, to prevent solidification, or to prevent a chemical reaction. Loss of temperature, fractures in tanks, or damage to equipment can result in substantial business interruption losses. Port tariffs will, in

most cases, place liability for such loss on the customer. However, where such losses can be shown to result from the port's negligence, the tariff hold harmless agreement may not be enforceable.

Contingent Business Interruption Exposures

This is a loss exposure to a port resulting from third party property destroyed or damaged. Examples of contingent business interruption include:

- Damage to a non-owned lock that prevents vessels from using port facilities.
- Damage to a non-owned bridge that prevents or impairs the movement of rail, truck, or vessel traffic.
- Damage to the facilities of a crane manufacturer that delays delivery of a new crane for a dock. Without the crane, the use of the dock is limited from its intended operation with a resulting loss of revenue.
- Severe damage to a nearby manufacturing or processing plant that utilizes port facilities to import bulk raw materials or other necessary goods.
- Interruption of incoming utility service (gas, electricity, water) resulting from damage at utility facilities.

Contingent loss exposures are present in many situations and are often overlooked in the risk identification process.

Transit Business Interruption

This type of business interruption is a loss exposure from transportation of a critical piece of equipment or other property. For example, a loading system is being delivered by barge. The barge is involved in an accident causing substantial damage to the equipment. The planned start-up date is significantly delayed while the equipment is salvaged for repair, or replaced.

Loss of Information

This can involve loss of property comprising data processing media, other valuable records, and information in conventional form. If duplicate

data and records do not exist, a port must incur the expense to reconstruct the lost information to the fullest extent possible.

Leasehold Interests

Ports holding tenancy under an advantageous lease can lose such advantages if the leased building is severely damaged or destroyed and new leased space must be arranged at a higher cost or less liberal terms. Inflation or high occupancy rates can substantially increase real estate values and the attendant cost of leasing space. A port with favorable leases should recognize the loss potential that exists should the lease be lost resulting in relocating to more expensive quarters.

Strikes

Employee relations will, at times, deteriorate to the point where strikes may occur. Failed labor negotiations can result in a strike, which may shut down a port facility. The principal difference between a strike and the other loss exposures discussed is that a strike is not inherently accidental, and does not, in itself, involve damage to or destruction of a physical asset.

MANAGING ENVIRONMENTAL HAZARDS

Managing the risks associated with environmental hazards presents a number of unique challenges. If properly managed, loss exposures can be significantly minimized. One of the basic premises of minimizing environmental liability is having in place an action plan to respond to pollution contingencies. A key element in such plans is clear instructions concerning notification of appropriate governmental agencies. Some statutes, such as the Oil Pollution Act of 1990 and the Emergency Planning and Community Right-to-Know Act of 1986, place great emphasis on such notifications.

Also, knowledge of the growing field of environmental audits and the role of International Standards Organization's Environmental Management Standards is a crucial skill needed today.

It is important to have a basic understanding of some of the laws that affect the management of environmental hazards. In addition, knowing the agencies involved and the resources available can reduce critically important response time. The following is a summary of laws, agencies and other related information.

Organizations and Agencies

Federal

Environmental Protection Agency (EPA)

The purpose of the federal EPA is the protection of the environment today, and, for future generations to the fullest extent possible under the law. The Agency's mission is to control and abate pollution in the areas of water, air, solid waste, pesticides, noise, and radiation. EPA's mandate is to mount an integrated, coordinated attack on environmental pollution in cooperation with state and local governments. Recent Brownfields legislation changes what had been an adversarial relationship to that of a partnership between government and industry.

It should be noted that states have "Departments of Environmental Protection" that have delegated authority from EPA, as well as legislated state authority over water quality, air quality, hazardous materials, and waste management. These agencies can be involved in everything from construction permitting near wetlands to the proper disposal of fluorescent bulbs.

Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Administration functions under the United States Department of Labor. Its primary purpose is to prevent workplace injuries and protect the health of America's workers. Its enforcement powers are largely derived from the Occupational Safety and Health Act of 1970. OSHA's staff of inspectors, investigators, engineers, physicians, educators, standards writers, and other personnel reaches out to the American public through technical assistance and consultation programs.

U.S. Coast Guard (USCG)

Founded in the 1790s as part of the Department of Treasury, the USCG is now part of the De-

partment of Transportation. Its mission is to enforce the rules of navigation, including vessel traffic management and recreational boating safety, regulate merchant marine licensing and exams, administer vessel documentation, and oversee vessel response and shipboard oil pollution emergency plans.

Among the USCG responsibilities that may be of concern to risk managers are:

- Proper receiving, storing, and shipping of hazardous cargo
- Placarding and stowage of hazardous cargo
- Emergency response to hazardous cargo releases
- Inspection procedures for certain high-hazard cargoes
- Employee training and retraining on hazardous material regulations
- Fire prevention requirements on berths, piers, and vessels
- Local hurricane contingency planning
- Coordination of military deployments through the terminal

Additionally, the USCG often assigns some of their younger officers to a terminal or port to learn industry practices and procedures. This can be an excellent opportunity to educate future compliance officers as to the real problems and exposures faced by entities attempting to earn a profit while complying with applicable regulations.

Some pertinent regulations are:

- 33 CFR Part 126 (Explosives)
- 33 CFR Subchapter M (Oil Spill Liability)
- 49 CFR Subchapter C (Hazardous Materials regulations)

U.S. Army Corps of Engineers (USACE)

USACE provides engineering, construction management, and environmental services to defense and civilian agencies, as well as to the nation. Some of the agency's many responsibilities include: planning, designing, building and often operating and maintaining projects that

provide river and harbor navigation, flood control, water supply, hydroelectric power, environmental restoration, wildlife protection, and recreation; protecting U.S. waterways and wetlands; and undertaking disaster relief and recovery work. USACE also issues permits for dredging projects.

Federal Emergency Management Agency (FEMA)

Founded in 1979, FEMA is an independent agency of the government. The agency is responsible for the U.S. emergency management system and works to reduce risks, strengthen support systems and help people and their communities prepare for and cope with disasters regardless of the cause.

The range of FEMA's activities is broad and includes: administering the national flood and crime insurance programs; advising on building codes and flood plain management; coordinating the federal response to a disaster; and making disaster assistance available to states, communities, businesses, and individuals.

National Oceanic and Atmospheric Administration (NOAA)

An administration within the Department of Commerce, NOAA's mission is to describe and predict changes in the Earth's environment, and conserve and wisely manage the United States' coastal and marine resources. Four of NOAA's agencies are the National Weather Service (NWS), the National Marine Fisheries Service (NMFS), the Office of Oceanic and Atmospheric Research (OAR), and the National Ocean Service (NOS).

One of NOAA's many responsibilities is to promote safe navigation by managing the nautical chart data collection and information programs. The only official chartmaker, NOAA produces marine navigation and tidal current charts, as well as tide tables. Another responsibility is to administer agency programs that support the domestic and international conservation and management of living marine resources.

National Institute of Occupational Safety and Health (NIOSH)

NIOSH was established to conduct research on a national level to eliminate on-the-job health

and safety hazards. NIOSH is responsible for identifying workplace safety and job health hazards and for recommending changes in health and safety regulations. NIOSH conducts research to study the effects of exposure to hazardous substances and other factors involved in occupational health and safety.

Non-Federal

Air Quality Management District (AQMD)

The Air Quality Management District controls emissions from a variety of stationary sources of air pollution. The AQMD continually monitors air quality at many different locations and notifies the public whenever air quality is unhealthy.

Board of Equalization (BOE), or its equivalent

For example, in California one of the functions of the Board of Equalization is to administer *Environmental Taxes* through the Environmental Fees Division. These *environmental taxes* include an annual Hazardous Waste Generator Fee and Waste Reporting Surcharge Fee, a quarterly Underground Storage Tank Fee, Extremely Hazardous Waste Permit Fee, and a Hazardous Substance Disposal Fee.

American Industrial Hygiene Association (AIHA)

The American Industrial Hygiene Association is engaged in protecting the health and well-being of workers and the general public through the scientific application of knowledge concerning chemical, engineering, physical, biological, or medical principles to minimize environmental stress and to prevent occupational disease.

National Fire Protection Association (NFPA)

This is a non-profit organization dedicated to fire safety, fire research, and education. It publishes a number of publications on fire safety and prevention.

Technical Resources

Chemical Transportation Emergency Center (CHEMTREC)

CHEMTREC provides emergency information about hazardous chemicals involved in trans-

portation accidents 24 hours a day. The nationwide telephone number is 1-800-424-9300. Information is provided on response actions and procedures to follow in the event of a spill, leak, fire, or exposure.

Chemical Evaluation Search and Retrieval System (CESARS)

The Chemical Evaluation Search and Retrieval System is part of the ongoing cooperative effort to regulate toxic chemicals in the environment by the Michigan Department of Natural Resources and the Ontario Ministry of the Environment. CESARS contains profiles on chemicals of environmental concern. Each record consists of chemical identification information and provides descriptive data on up to 23 topic areas, ranging from chemical properties to toxicity to environmental transports and fates.

Chemical Information (CHEMINFO)

CHEMINFO provides comprehensive, practical, summarized occupational health and safety information on chemicals. Produced by the Canadian Centre for Occupational Health and Safety, occupational health specialist, each chemical profile uses non-technical language to describe potential workplace hazards and control measures. Each profile provides a detailed evaluation of health, fire and reactivity hazards, as well as recommendations on topics such as handling and storage, personnel protective equipment, accidental release, first-aid, and hazardous classifications.

Chemical Hazards Response Information System (CHRIS)

The Chemical Hazards Response Information System database represents the literal text of the United States Coast Guard printed CHRIS Manual. CHRIS was developed in 1985, and new records are added periodically. It was designed as a comprehensive source of emergency response information for those individuals in the transport of hazardous materials. However, it is useful for many emergency situations involving hazardous materials. Records for more than 1,300 materials are provided in English.

Federal Health, Safety, Labor, and Environmental Statutes and Their Regulations¹

[Citations are to the United States Code (U.S.C.) or to the Code of Federal Regulations (CFR)]

To underscore the complexity of the legal system, a good example of the interplay between legal requirements that can lead to uncertainty to everyday activity is the legal treatment of a marine terminal. The law deals with the terminal at various times, and, occasionally, at the same time, as different legal entities. The uncertainty created by different liability concepts can be viewed as an administrative obstacle to implementing a risk management plan. For example, a marine terminal can be viewed as one of eight different legal entities, depending upon the facts. (See Exhibit I in Appendix B, page B--10 for a detailed discussion.)

The Clean Air Act (CAA)

Statute: The Clean Air Act (CAA), 42 U.S.C. §§7401-7431; 7501-7671q – **Regulations:** 40 CFR: e.g. Part 52 (EPA - Approval and Promulgation of State Implementation Plan); Part 63 (EPA - National Emission Standards for Hazardous Air Pollutants for Source Categories); Part 90 (EPA - Emission Standards for New Nonroad Spark-Ignition Engines at or Below 19 Kilowatts); Part 81 (EPA - Designation of Areas for Air Quality Planning Purposes); Part 82 (EPA - Protection of Stratospheric Ozone/Incorporation of Montreal Protocol Decisions); Part 89 (EPA - Control of Emissions of Air Pollution from New CI Marine Engines at or Above 37 Kilowatts).

The Clean Water Act (CWA)

Statute: The Clean Water Act (CWA), 33 U.S.C. §§1251-1387 (also referred to as the Federal Water Pollution Control Act of 1972), as amended by the Oil Pollution Act of 1990 (33 U.S.C. §§2701-2761; 46 U.S.C. §3703a) – **Regulations:** 40 CFR: e.g. Part 227 (EPA - Ocean Dumping Testing Requirements); Part 228 (EPA - Ocean Dumping Site Designation); 40 CFR Part 110 (EPA - Oil Discharge Program); 33 CFR: e.g. Parts 130-138 (USCG

¹ To the extent not pre-empted by Federal law, state health, safety, labor, and environmental statutes and their regulations would apply.

pollution regulations); Parts 150 and 154 (USCG - Response Plans for Marine Transportation-Related Facilities); 15 CFR: e.g. Part 990 (National Oceanic and Atmospheric Administration - Natural Resource Damage Assessments).

Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Statute: The Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. §§9601-9675 (which includes the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499 & 99-563, 42 U.S.C. §§9611, 9671-9675, 29 U.S.C. §655) – **Regulations:** 43 CFR: e.g. Part 11 (Department of the Interior - Natural Resource Damage Assessments: Type A Procedures); 40 CFR: e.g. Parts 51 (EPA - Requirements for Submittal of Implementation Plans), 279 (EPA - Standards for management of Used Oil), 300 (EPA - National Oil and Hazardous Substances Pollution Contingency Plans).

The Noise Control Act of 1972

Statute: The Noise Control Act of 1972, 42 U.S.C. §§4901-4918 – **Regulations:** 29 CFR e.g., §1010.16 (OSHA - Longshoring and marine terminals); §1910.95 (OSHA - Occupational Noise Exposure).

Resource Conservation and Recovery Act (RCRA)

Hazardous and Solid Waste Act Amendments of 1984 (HSWA)

Statute: The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§6901-6992k (which includes the Hazardous and Solid Waste Act Amendments of 1984 (HSWA), Pub. L. 98-616) – **Regulations:** 40 CFR: e.g., Parts 261, 262, 264, 265, 270, and 271 (EPA - Hazardous Waste Treatment, Storage, and Disposal Facilities and Hazardous Waste Generators; Organic Air Emission Standards for Tanks, Surface Impoundments, and Containers); Parts 148, 261, 266, 268, 271, and 302 (EPA - Hazardous Waste Management System).

Hazardous Waste Operations and Emergency Response (HAZWOPER)

Statute: SARA – **Regulations:** The Hazardous Waste Operations and Emergency Response (HAZWOPER) Regulations issued by OSHA, as mandated by SARA – 29 CFR Part 1910

Toxic Substance Control Act of 1986 (TSCA)

Asbestos Hazard Emergency Response Act of 1986 (AHERA)

Statute: The Toxic Substance Control Act of 1986 (TSCA), 15 U.S.C. §§2601-2629 (which includes the Asbestos Hazard Emergency Response Act of 1986 (AHERA), Pub. L. 99-519, 15 U.S.C. §§2641-2671) – **Regulations:** 40 CFR: e.g. Parts 750 and 761 (EPA - Disposal of Polychlorinated Biphenyls (PCBs); Part 763 (EPA - Asbestos); Part 799 (EPA - Test Rule for Hazardous Air Pollutants).

The Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)

Statute: The Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. §§11001-11050) (EPCRA) – **Regulations:** 40 CFR e.g., Part 372 (EPA - Toxic Chemical Release Reporting; Facilities Included; Toxic Release Inventory Reporting; Community Right-to-Know).

Longshore & Harbor Workers' Compensation Act (USL&H)

Statute: Longshore & Harbor Workers' Compensation Act (USL&H), 33 U.S.C. §§901-944; 948-950 – **Regulations:** 20 CFR e.g., Parts 500-599 (Employees' Compensation Appeals Board); Parts 800-899 (Benefit Review Board).

Jones Act

Statute: Jones Act, 46 U.S.C. app. §688.

The Occupational Safety and Health Act of 1970

Statute: The Occupational Safety and Health Act of 1970, 29 U.S.C. §§651-678 – **Regulations:** 29 CFR Part 1910 (Occupational Safety and Health Standards).