

**AMERICAN ASSOCIATION OF INSURANCE SERVICES  
INLAND MARINE GUIDE  
ELECTRONIC DATA PROCESSING - UNDERWRITING**

**COVERED PROPERTY**

Electronic data processing (EDP) coverage is intended to cover computer hardware (equipment) and software (data and media). Coverage can also be provided for time element exposures as they relate to data processing operations.

It is important to note that not all states have adopted the 1976 Marine definition as regards EDP coverage. Some states treat EDP as a property risk or as a filed Inland Marine class. Refer to AAIS's State Filings Guide for specific state information.

**RISK SELECTION**

To underwrite EDP risks, obtain the following information:

1. the construction, occupancy, protection and exposures should be determined for each scheduled location.
2. a schedule of hardware should be obtained including:
  - a. manufacturer,
  - b. model, and
  - c. value.
3. obtain a description of the data processing operations including hours of operation and whether equipment is left running and unattended during non-business hours.
4. obtain a description of any fire protection devices that are used exclusively for the protection of EDP hardware and software (e.g. heat detectors, fire suppression system).
5. obtain a description of any devices used to prevent power line damage (e.g. line conditioner, uninterruptable power source).
6. determine if the risk has service maintenance contracts in effect with the hardware manufacturer or other service contractor.

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7. loss experience of the risk.
8. if hardware is located in a room/floor that has been specially designed to accommodate EDP equipment, the following additional information should be obtained:
  - a. total values within the room/floor,
  - b. a description of the air conditioning system,
  - c. a description of room/floor security,
  - d. determine if there is a master shutdown switch, and
  - e. determine the construction of and protection below any raised pedestal floor.

## **KEY HAZARDS**

### **General**

The type of EDP hardware used and its installation will determine the control of key hazards. There are three general categories of hardware:

1. personal computers (PCs),
2. mini computers,
3. mainframe computers.

It is important not to approach an EDP risk as being just a mainframe exposure or a PC risk. Many risks now use different types of computers in various kinds of combinations. For example, mini computers and PCs may be used together as part of local access network (LAN) or PCs and a mainframe will be used in a workstation configuration.

### **Fire**

For all EDP risks the primary factors that determine the likelihood and extent of a fire loss are the concerns that apply to the construction, occupancy, protection and exposures for the location where the EDP risk

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operates. In other words if the building burns down so does the hardware and software.

## **PCs**

When evaluating the hazard of fire, PCs can be considered as normal office contents. PCs are usually not accorded any special fire protection.

## **Mini Computers**

The bulk of mini computer values are in the central processing unit (CPU). The CPU and disc drives may be located in a room separated from the insured's other operations or they may be used in an open area along with other office contents. In most cases, if a mini computer is used in open areas, no devices or systems will be used to specifically protect the hardware. This type of installation should be evaluated on the same basis as office contents. If a separate room is utilized it should be protected as follows:

1. a separate temperature control,
2. hand-held extinguisher such as Halon, carbon dioxide, or multipurpose, and
3. smoke and heat detection system.

Heat or smoke alarms should be required if hardware is left running and unattended during non-business hours.

The peripheral hardware of a mini computer will be located throughout an office and can be considered as office contents when evaluating the hazard of fire.

Some risks with several printers may have the printers in a separate room. The room housing the printers should not have an accumulation of paper or other combustible materials.

If the total EDP values (hardware, software, extra expense and loss of income) within a room exceeds \$1,000,000 the room should have the same protection that is required for a mainframe computer.

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## **Mainframe Computers**

The CPUs, tape and disk drives, printers and modems of a mainframe risk should be located in a separate specially designed room or floor (EDP room). Most rooms built for mainframe installations will have raised floors with decking panels that allow large cables to run beneath the floor connecting the hardware. Large collections of tapes or discs should be stored in a separate tape/disc room or vault.

**Halon and Sprinklers** -- In the review of standards for mainframe installations reference is made to automatic fire suppression systems. The most widely used suppression agent used in systems designed for EDP risks is Halon. Because of environmental concerns the production of Halon has been banned. Refer to the Information section of this Guide class for a review of the status of Halon and alternative agents.

Reference is also made to a sprinkler system. At one time sprinklers were considered incompatible with an EDP room because of the potential for water damage. Many loss control engineers now consider a sprinkler system preferable to a fire suppression system such as Halon. There are two reasons for this change in views:

1. Some engineers question the reliability of fire suppression systems as compared to sprinklers. For such a suppression system to be effective the suppression agent must reach an optimum concentration level within a room. This requires that the room be sealed when the system is activated. If a door is not closed or a vent is open the required concentration level will not be reached and the fire will not be suppressed.
2. Companies that specialize in the salvage of EDP equipment have become more adept at restoring hardware that is damaged by water. Therefore, the limited fire damage and the potential loss from water damage is considered acceptable when compared to the amount of fire damage that can result if a suppression system is ineffective.

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**Standards** -- An EDP room should be protected by the following devices if the total EDP values (hardware, software, extra expense and loss of income) exceed \$1,000,000:

1. an automatic fire suppression system for the entire EDP room, including below the raised floor. If the room is sprinklered at the ceiling level, then an automatic fire suppression or sprinklered system should be required below the raised floor.
2. an automatic fire suppression system for the entire tape/disc room or vault, including below a raised floor (if the floor is raised).
3. for the purpose of avoiding accidental dumping of the suppression system, a manual abort switch should be installed. Pull down stations for the manual discharge of the system should be located outside the EDP room. Discharge of the system should also be automatically controlled by a detection system. The following are the most common methods of detection although there are other methods that may be acceptable:
  - a. cross zoned,
  - b. priority matrix, or
  - c. counting.
4. connection of a smoke detection system and any sprinkler system to central station alarm or to a 24-hour staffed security station.
5. an emergency manual and automatic (if possible) power disconnect switch that can shut down all primary power to the hardware.
6. mechanical ventilation of the EDP room, that is separated from the building wide system and is interlocked to shut down upon activation of the smoke detection system. Automatic shut down of the ventilation system is not necessary if a sprinkler system is installed instead of a fire suppression system.

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An automatic fire suppression system below a raised floor can be waived depending on the type of cables used, adequacy of hand held extinguisher, access to and removal of floor panels, and type of smoke detection system used. A loss control representative should be consulted when considering waiving this standard.

## **Theft**

### **PCs**

PCs are considered a target commodity for theft. A risk with several PCs should restrict access to their premises during business hours and have a central station premises alarm during nonbusiness hours. Risks with a frequency of theft losses can be required to install special locks that lock a PC to a desk. Risks that do not employ loss control measures and that have a frequency of theft losses should be written with a deductible equal to the value of one PC.

### **Mini and Mainframe Computers**

The size and complexity of installation for mini and mainframe CPUs and disc drives makes them unattractive as theft targets. However, peripheral equipment such as small printers and terminals (i.e. keyboards, monitors) can be targets for theft. Access to the insured's premises should be restricted during business hours and a central station premises alarm should be required during nonbusiness hours.

## **Vandalism**

All EDP hardware and software is subject to vandalism. Access to an insured's premises should be restricted during business hours and a central station premises alarm should be required during nonbusiness hours. It is important to note that EDP forms cover dishonest acts by employees, therefore vandalism by employees would be a covered loss.

## **Computer Virus**

Most EDP forms provide coverage for computer viruses, however, this coverage is usually not specifically addressed in the forms. The insertion of a virus into software is considered an act of vandalism and vandalism is a covered peril (i.e. not an exclusion). This means that vandalism is

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considered to be the act that causes the loss and the virus is the method of vandalizing the software. Refer to the Information section of this Guide class for a review of computer viruses.

## **Electrical Disturbance and Power Supply Disturbance**

Most current EDP hardware has built-in protection to prevent or reduce damage from electrical disturbance or power supply disturbance. The protection that is built into the hardware, however, will not prevent damage from an extreme or violent disturbance. Line protection is often needed and sometimes required by manufacturers to prevent damage from electrical disturbance and power supply disturbance.

Refer to the Information section of this Guide class for a review of the causes of disturbance losses and the methods of protection.

### **PCs**

Risks with a history of disturbance losses should install a power suppressor or a dedicated line. Risks with a history of disturbance losses that cannot or will not install line protection, should be written with an electrical disturbance/mechanical breakdown deductible equal to the greater of \$1,000 or the average loss.

### **Mini Computers**

The CPU and disc drive should be protected by a dedicated line and a power suppressor. The minimum deductible for electrical disturbance/mechanical breakdown losses should be \$1,000.

### **Mainframe Computers**

Mainframe hardware within an EDP room should have line protection. An uninterruptable power source (UPS) provides the best line protection for an EDP room. However, the high cost of a UPS makes the system undesirable for many insureds. An alternative would be a dedicated line plus one or both of the following devices:

1. voltage regulator/power suppressor, and/or
2. line conditioner.

The minimum electrical disturbance/mechanical breakdown deductible should be \$2,500.

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## **Mechanical Breakdown**

Most mechanical breakdown losses can be covered by a manufacturer's service contract. All mini and mainframe risks should be covered by a service contract. PCs should be covered by a service contract, however, this can be waived when coverage is written for only one or two personal computers.

## **Flood and Earthquake**

EDP forms provide coverage for flood and earthquake by way of not excluding these perils. Given the sensitivity of EDP hardware the potential for loss would be greater than what would be expected for general office equipment.

## **ENDORSEMENTS**

The following is a list of endorsements that modify the EDP coverage forms.

### **Disturbance Coverage**

Coverage is provided for losses due to electrical disturbance or power supply disturbance if the loss took place within 500 feet of the insured's premises. However, when the cause of the loss occurred beyond 500 feet coverage is specifically excluded. The Disturbance Endorsement deletes the limitation and extends disturbance coverage beyond 500 feet.

When extending disturbance coverage and line protection has not been installed the minimum electrical disturbance/mechanical breakdown deductible should be \$2,500. Extended coverage should not be offered to a mainframe risk that does not have line protection.

### **Loss of Income**

Extra expense coverage is built into the EDP form but loss of income must be added by endorsement. The following should be reviewed when providing loss of income coverage:

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1. determine whether a risk has a loss of income exposure. An understanding of the relationship between the EDP operations and the insured's line of business is necessary to evaluate a loss of income exposure.

For example, if the EDP operations are used for payroll and accounting, an EDP loss would not usually result in a loss of income. On the other hand a firm that is in the business of developing software for other firms would have a substantial loss of income exposure.

2. underwriters should be cautious when considering a risk that uses hardware that is of such a specialized nature that it could not be replaced within a reasonable time (e.g. equipment that is made to order).
3. underwriters should determine and analyze a risk's contingency or recovery plan. A plan should consider:
  - a. the availability of replacement or rental equipment. Does the insured have a written agreement with the manufacturer or rental company to have replacement/rental hardware delivered within a stated number of days?
  - b. the availability of an alternate site in the event that the insured's building is damaged or destroyed. A cold site would be a location that is suitable for the delivery and installation of replacement/rental equipment. A hot site would be a location that already has hardware set up for the insured to use. Does a written agreement exist?
  - c. the availability of another company's facilities and hardware. Does the insured have a written agreement, is the equipment similar and hours of operation agreed upon?

#### **Upgrade Value Endorsement**

This endorsement amends the valuation provision so that hardware can be replaced by hardware of greater processing ability and increased cost. The current hardware would only be replaced by the upgraded (newer) hardware if a loss to the equipment was a total loss.

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When adding the Upgrade Value Endorsement obtain a schedule of the current equipment and the corresponding upgrade hardware, the schedule should contain the values for each item. The schedule should be updated annually.

## **LOSS CONTROL**

The following is a list of possible questions that can be addressed during a loss control survey.

This list is NOT intended to represent a comprehensive and exhaustive treatment of loss control issues that relate to electronic data processing risks. UNDERWRITERS SHOULD CONSIDER additional questions that address concerns about specific types of operations and/or individual risks.

### **Ordering A Survey**

Before ordering a survey an underwriter should have an understanding of the risk's data processing operations/installation. The type of operation should determine what kind of survey to order. For example, a PC based operation will have hardware spread throughout an insured's business and would call for a standard property survey. A specific EDP loss control survey should only be ordered when hardware is located in a room/floor that is designed for the equipment.

### **Loss Control Survey**

The following are loss control issues that should be described and addressed when a survey is requested for an EDP room/floor:

#### **Operations**

Describe the insured's data processing operations :

1. type of installation (e.g. mainframe, mini);
2. application/function of hardware;
3. hours of operation, hours equipment is left running and unattended while closed for business.

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**Construction**

Describe the construction of the EDP room/floor:

1. fire/smoke barriers including rating and integrity;
2. interior finish;
3. raised floor (combustible/non-combustible);
4. wiring, type and bundling;
5. furniture and fixtures (combustible/non-combustible);
6. HVAC/cooling system
  - a. separate system,
  - b. filters

**Occupancy**

Describe the physical features of the EDP room/floor:

1. location of room/floor in relation to the building;
2. square feet of area;
3. water damage potential:
  - a. water tight floor above,
  - b. water/steam pipe exposure,
  - c. drainage,
  - d. basement exposure;
4. prohibitions:
  - a. flammable liquids,
  - b. smoking,
  - c. eating/drinking,
  - d. storage of combustibles;
5. waste disposal;
6. software storage, on premises:
  - a. storage room,
  - b. safe/cabinet,
  - c. fire division;

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7. software storage, off premises:
  - a. location,
  - b. update interval.

**Exposures**

Describe any internal exposures or special hazards.

**Fire Protection**

Describe fire protection within the room/floor:

1. ceiling;
2. room space;
3. below raised floor;
4. smoke detection interlock:
  - a. extinguishing/suppression system activation,
  - b. alarm;
5. suppression system activation:
  - a. alarm,
  - b. shutdown of HVAC system,
  - c. shutdown of electrical power to equipment,
  - d. closure of fire doors,
  - e. time delay before discharge,
  - f. manual abort switch;
6. sprinkler system operation:
  - a. type (dry, wet, preaction),
  - b. alarm,
  - c. shutdown of electrical power to equipment,
  - d. closure of fire doors;
7. manual suppression system switch;
8. temperature/humidity alarm for the area;
9. smoke venting/removal system;

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10. adequacy of hand held fire extinguisher;
11. adequacy of floor panel lifters.

**Security**

Describe security measures:

1. alarm;
2. restrictions on access.

**Power Supply Protection**

Describe protection from and exposure to electrical disturbance:

1. auxiliary or secondary power source;
2. protective devices:
  - a. UPS,
  - b. power suppressor/voltage regulator,
  - c. line conditioner,
  - d. dedicated line;
3. history of brown outs, blackouts and violent storms in the area.

**Loss of Income**

Review procedures and exposures that may affect a loss of income:

1. is any equipment specially designed to perform a unique function;
2. written contingency/recovery plan:
  - a. agreement for replacement/rental equipment,
  - b. agreement for alternate location (cold site, hot site),
  - c. agreement to use the facilities/hardware of another company,
  - d. estimated (probable) maximum time to resume full EDP operations after loss.

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**General**

1. training of personnel in emergency/salvage procedures;
2. maintenance/service contract for hardware;
3. loss history.