



# Property Risk Consulting Guidelines

XL Risk Consulting

A Publication of AXA XL Risk Consulting

PRC.11.0.1

## FIRE PROTECTION AND SECURITY SURVEILLANCE

### INTRODUCTION

This section identifies the **minimum** fire protection and security surveillance acceptable to AXA XL Risk Consulting. It is the basis for developing AXA XL Risk Consulting loss prevention recommendations pertaining to surveillance.

### POSITION

Develop and implement a surveillance plan in accordance with Section 11 of *OVERVIEW*. Also implement the surveillance recommendations in Table 1 in accordance with and as interpreted by this section.

### Surveillance Levels

The surveillance level chosen in Table 1 depends on many factors, including the facility's construction and arrangement, the location's values, the hazards present, the occupancy's damageability, and the normal and adverse loss potentials. Contact the AXA XL Risk Consulting's Account Consultant for guidance in determining the level of surveillance that applies.

### Definitions

Use the following definitions in conjunction with Table 1.

- **Standard Watchman Service** consists of recorded guard patrol tours made hourly at night and bi-hourly during the idle days covering all unoccupied areas of a facility.
- **Alarm Service** is UL certificated and installed in accordance with NFPA 72 and PRC.11.1.1.0.
- **Complete Alarm and Supervisory Service:** Wherever an electronic surveillance system is used in place of standard watchman service, a competent person should make one unrecorded walk through tour at the close of the last work shift each day. Critically review the possibility of transient combustibles being placed in nonsprinklered areas. Provide automatic sprinkler protection wherever this possibility exists.

**TABLE 1**  
**Minimum Surveillance Requirements**

Surveillance Level	Minimum Surveillance recommended by AXA XL Risk Consulting	Comments/ Special Conditions
1	Waterflow alarm service only.  OR  Standard Watchman Service with a local waterflow alarm at each riser.	A drop-in-pressure type waterflow alarm initiating device should be used that will allow an alarm to be initiated even if the sprinkler control valve is shut.
2	Complete alarm and supervisory service.  OR  Standard Watchman Service <b>and</b> waterflow alarms connected to a Local fire alarm system.*	Include one unrecorded patrol tour following last work shift.  Waterflow alarms to be transmitted to listed zoned control unit installed in accordance with NFPA 72.
3	Complete alarm and supervisory <b>and</b> intrusion detection.  OR  Standard Watchman Service <b>and</b> waterflow alarms connected to Local fire alarm system.*	Waterflow alarms to be transmitted to listed zoned control unit installed in accordance with NFPA 72.
4	Watchman Service with bi-hourly patrol tours covering all unoccupied areas <b>and</b> alarm service consisting of sprinkler waterflow and alarm from actuation of special extinguishing systems.  OR  Watchman Service with frequency of patrol tours bi-hourly or less <b>and</b> alarm service consisting of sprinkler waterflow, alarm from actuation of special extinguishing systems <b>and</b> valve supervision.	To reduce the frequency of guard patrol tours, a facility must have excellent management programs and excellent overall protection. See the section titled <b>Excellent Quality Facilities</b> .  In lieu of valve supervision, locking the valves "open" with hard shackle locks may be considered equivalent for proprietary station supervising systems whereby all other factors are rated as excellent.

\* Annunciation of waterflow alarms at a designated location at the facility and the operation of alarm notification appliances throughout the facility are only necessary when the watchman, either on tour or between tours, cannot hear the local (at riser) waterflow alarms from all risers at all times. During the watchman's tour, retransmission of alarm signals to a handheld radio may be considered equivalent to the requirement for operation of alarm notification devices throughout the facility.

Complete alarm and supervisory service includes monitoring by a central station, proprietary supervising station, remote station supervising station, or a combination auxiliary (for alarms) and remote station (for supervisory). The alarm and supervisory service should cover the following:

- o Fire alarm signals from the discharge of all automatic sprinkler systems and fire extinguishing systems. Fire alarm signals from all installed automatic detection systems.
- o Supervisory signals from the closure of all fire protection water supply, divisional and sprinkler system control valves 2½ in. (65 mm) or larger. Supervisory signals that monitor the high and low air pressure of all dry pipe sprinkler valves and water pressure tanks.
- o Supervisory or alarm signals that monitor the integrity of all private water supplies, including storage tank level and low temperature supervision (in areas subject to freezing temperatures), fire pump running alarm and driver/controller availability supervision. See the following examples regarding pump alarm and supervisory signals.

**Electric Motor Driven Pumps:** pump running alarm signal, power availability and phase reversal supervisory signal.

**Diesel Engine Driven Pumps:** pump running alarm signal, engine trouble, controller trouble, and controller switch in position other than automatic supervisory signals.

**Automatic Steam Driven Pumps:** pump running alarm signal and steam availability supervisory signal.

- Supervisory signals that monitor the low pressure of all questionable public water supplies.
- Supervisory signals that monitor the low temperature (in areas subject to freezing temperatures) of all buildings equipped with wet pipe sprinkler systems, all dry pipe sprinkler valve closets and all fire pump rooms.
- Supervisory signals that monitor safe operating parameters of critical processes as a backup to the operating controls, such as excess pressure or temperature, or that monitor external conditions affecting the safe operation of a process, such as flooding of an oil pumping pit. Determine the signals to be monitored through implementation of the facility's hazard identification and evaluation program. See Section 13 of *OVERVIEW*.

**Intrusion Detection**

Provide a listed central station, proprietary supervising station, remote supervising station or auxiliary (police-connected) burglar alarm installation with local bell to detect the penetration of a facility's perimeter by unauthorized personnel. The local bell is considered a vital deterrent to vandals where police response may be considered too slow.

**Excellent Quality Facilities**

To reduce the frequency of guard patrol tours, a facility must have excellent management programs and excellent overall protection. The frequency of patrol tours must respond to the needs of the facility. The greater the susceptibility to loss, criticality of operation or hazard, the more frequent the patrol tours.

Carefully review all factors with AXA XL Risk Consulting to arrive at agreements that can be used as the customer's corporate guidelines. These guidelines should spell out specific occupancies at individual facilities wherever they may be located, but at the same time, allow for customizing the frequency (generally **more** frequent than the guideline) where justified by analysis of a given situation.

In all cases, a recorded patrol tour should be made within 1 hr after an area becomes unoccupied. Thereafter, use the following guidance in establishing the minimum guard patrol tour frequency for a given facility:

OCCUPANCY	FREQUENCY OF PATROL TOURS
Light Hazard Occupancies	8 hrs
Ordinary Hazard Manufacturing	4 hrs
Warehouses	4 hrs
Moderate Hazard Manufacturing	3 hrs
Extra Hazard Manufacturing	2 hrs

**Detached Portions of a Facility**

Evaluate detached portions of a major facility on the same basis as a smaller facility. For example, a detached finished product warehouse needing surveillance Level 2 would have satisfactory surveillance if there were no adverse conditions and it was provided with complete alarm and supervisory service.

**Continuous Operations**

Having continuous operations can satisfy fire protection surveillance needs. However, also consider the security surveillance needs before concluding which level of surveillance is appropriate.

Continuous operations are generally found at manufacturing facilities, but could pertain to any property. Surveillance requirements may be satisfied by human occupancy for the intended use of the individual buildings or structures. Human occupancy for intended use includes production staff in a manufacturing building, warehousing personnel in a warehouse, and office staff in an office building.

AXA XL Risk Consulting does not recognize the presence of transient personnel in a building as constituting occupancy during periods of time when intended use does not take place. Such transient occupancy includes maintenance personnel working on production machinery for short periods during shutdowns, cleaning personnel in an office building, and production personnel passing through a warehouse.

In reviewing functional occupancy, consider any reduced staffs during late evening and early morning shifts, and whether major areas of a large building or entire floors of a multi-story building are sufficiently occupied to constitute proper surveillance. Large facilities, including but not limited to chemical plants, refineries, paper mills and steel mills, commonly operate 24 hrs a day, seven days a week. However, these properties can still have other surveillance requirements.

### **Additional Surveillance Evaluation Scenarios**

Several scenarios require examination to be certain that alarm and supervisory signals are received and intrusion by unauthorized personnel is prevented, including the following:

- During the course of a normal, full production week, what important areas are unoccupied for part of a shift, an entire shift or on weekends? During idle periods, how is surveillance achieved? Is this surveillance adequate for proper loss prevention?
- What increase in surveillance is needed as the level of production decreases? What additional areas may become unoccupied?
- What effect does a holiday have on the occupancy of various areas?
- All production activities cease sometime, often for pre-determined periods each year. How are surveillance needs satisfied? Standard watchman service is normally required. A large number of maintenance personnel, though not normally recognized as equivalent to an operating staff, may satisfy a shift's surveillance needs in part of the facility during a shutdown when they are engaged in long-term projects.

Consider the following adverse conditions in determining whether it is necessary to provide guard patrol tours on a more frequent basis than stated in the guideline, and whether additional electronic surveillance is necessary.

- Unattended operations, such as the "burning in" of electronic components, continuous testing of electronic gear, or extended baking or curing of a product.
- Facility where valuable storage or products may invite theft. In such cases, an increase in guard patrol tour frequency is recommended. Evaluate the need for hazard-specific burglar alarm systems, as well as general intrusion detection.
- Finished products, such as computers, that is very attractive to thieves.
- Extensive or high value yard storage.
- Significant exposure from adjacent properties.
- Facility located in a high crime or blighted area, which may be subject to riots or civil commotion.
- Facility involved in public controversy, such as one that manufactures military parts or weapons.
- Facility experiencing labor unrest where general intrusion detection will not prevent active efforts at sabotage.
- Facility located in remote rural area, where response of the public fire department and central station runner service might be excessively delayed.