CONDUCTING THE LOSS PREVENTION AUDIT

The loss prevention audit is designed to provide management with feedback about how well the other *OVERVIEW* programs are being implemented at a facility.

The in-house inspector must tour the entire facility, including outside areas, roofs and the interiors of all buildings. A report form, such as the one shown in Appendix B, should be completed during each audit. The suggested report form is a brief checklist of all management programs in force. Appropriate comments should be made only where deficiencies or major changes are noted. Most facilities will require a custom-designed form.

The inspector should be familiar with the facility's Management of Change (MOC) program. During the audit, the inspector should determine whether MOC procedures were followed in implementing each change noted as a result of the audit.

Loss and "near miss" reports for incidents occurring since the last audit should be thoroughly reviewed to identify management program failures. Any deficiencies found should be corrected.

Following are specific areas to check for the *OVERVIEW* programs listed on the sample form:

MANAGEMENT OF CHANGE

It is not the inspector's responsibility to evaluate changes but to ascertain the present state of the facility's Management of Change system. The inspector should be familiar with the facility and its processes, procedures and personnel so that any changes will be recognized. Then the concerned personnel and documentation should be consulted to determine if all relevant Management of Change procedures have been followed properly.

IMPAIRMENTS TO FIRE PROTECTION SYSTEMS

In verifying that the impairment handling program at the facility is functioning properly, the inspector should be thoroughly familiar with AXA XL Risk Consulting's RSVP impairment handling program or other equivalent program in use at the facility. At the time of each audit, the shut-off and reminder tags should be reviewed for each impairment that has occurred since the last audit. During this review, evidence of any improper handling should be noted. Any impairment encountered during the tour should be reviewed to be sure proper procedures are followed.

SMOKING REGULATIONS

While touring the facility, the inspector should check for the following:

- Proper posting of "No Smoking" signs;
- Evidence of failure to comply with smoking regulations, such as discarded smoking materials or someone smoking in "No Smoking" areas;
- Occupancy changes requiring revisions of smoking regulations;
- Cleanliness in smoking areas.

MAINTENANCE

The inspector should be alert to indications of deficiencies in the maintenance management program. Work orders and equipment data files should be checked to determine if proper priorities are being

followed. If the maintenance information system is computerized, access to it will allow the inspector to audit its general condition. Observation of maintenance jobs in progress should reveal the adequacy of training, as well as the general competence of, and direction given to, maintenance employees.

The inspector should review maintenance records and equipment operating logs, paying particular attention to the possibility of adverse trends developing unnoticed. Any changes made in original devices or materials should be documented in the facility's MOC program.

The inspector should confirm that all components and systems determined to be "critical" or safety-related by the Hazard Identification and Evaluation (see PRC.1.13.0) have been so noted within the maintenance program. A review of the written maintenance notification reports to management should reveal whether any critical components or systems have been out of service and whether any safety-related components or systems remain out of service.

During the plant tour, the inspector should note indications of maintenance deficiencies. These indications include:

- Building Construction
  - Blistered or damaged roof covering;
  - Loose flashings;
  - Improperly sealed penetrations;
  - Overloaded floors;
  - Excessive cracks in masonry walls;
  - Broken windows.
- Electrical Equipment
  - Covers not in place on junction boxes and equipment enclosures;
  - Missing bolts and threaded covers on hazardous location equipment enclosures;
  - Covers, including gaskets, not in place on weathertight equipment enclosures and junction boxes;
  - Use of temporary wiring, including extension cords;
  - Presence of "cheater cords," which allow use of nonapproved devices in hazardous locations;
  - Dust, dirt and residues in and on motors, panels and lighting fixtures and corrosion of enclosures and conduits;
  - Missing or cracked globes on lighting fixtures in hazardous areas;
  - Any evidence of arcing or overheating;
  - Leaking insulating fluids;
  - Wear, chafing or other mechanical damage to cables or enclosures.
- Piping
  - Missing flange or support bolts;
  - Leaking joints and valve packings;
  - Excessive corrosion;
  - Loose, missing or "bottomed out" supports or hangers;
  - Hammering or vibration.
- Machinery
  - Improper lubrication;
  - Excessive or unusual noise or vibration;
  - Missing bolts in cover plates;

- Any hastily erected, temporary equipment;
- Loose or broken foundation bolts.

- Boilers and Pressure Vessels
  - Leaks, cracks, bulges, local overheating or excessive corrosion;
  - Corroded or leaking safety or relief valves;
  - Relief valve discharge piping reduced in size or not properly supported;
  - Loose or missing insulation.

EMPLOYEE TRAINING

During loss prevention audits, the inspector should be alert to unsafe work practices, which may indicate inadequate employee training programs or the need for retraining. The inspector should be familiar with the work methods taught in the training programs to determine whether the work practices observed during the audits are “by the book” or are worker adaptations.

If worker adaptations are observed, the inspector should determine if management tolerated the modification. This would indicate a lack of support for the training program. The inspector should determine if proper Management of Change procedures were followed in instituting the changed work practices.

Loss and “near miss” reports should be reviewed to determine whether employee training needs improvement.

NEW CONSTRUCTION

If any new construction, remodeling or change of occupancy is underway, the inspector should determine whether codes and standards are being observed, protection features are being expedited, combustible materials are being kept out of buildings until sprinklers are in service, and trash is being removed to ensure proper housekeeping.

For major construction projects, the inspector should accompany the construction manager on a tour of the site to determine that the precautions listed are being taken. In any recently completed construction, the inspector should determine whether loss prevention and protection specifications were actually followed.

LOSS PREVENTION RECOMMENDATIONS

The inspector should be familiar with AXA XL Risk Consulting recommendations and should report on the status of any that are being, or have recently been, completed.

PRE-EMERGENCY PLANNING

The inspector should be familiar with the written pre-emergency plan to determine whether it is current and takes into account changes in new construction, occupancy, operations or personnel. The inspector should also check the records to determine whether the Fire Brigade is training regularly and to be sure that the public fire department has visited the facility within the last year. If it was necessary to implement the pre-emergency plan since the last audit, the inspector should determine if the results were properly critiqued and any deficiencies corrected.

HAZARDOUS MATERIALS EVALUATION

During each loss prevention audit, the inspector should check for new materials being used. When a new material is found, the inspector should hold a discussion with the person responsible for

hazardous materials evaluation to determine if it has been evaluated and what cautionary signs or markings are required.

New materials are usually encountered where new processes or operations have been installed. However, materials used in an old operation may be changed for a variety of reasons. For example, a more effective material might be found or a less expensive material used in a process. Whenever materials have changed, the inspector should confirm that the change was reviewed under the MOC program.

During the tour, the inspector should also check areas known to contain hazardous materials to see that proper signs and labels are being used and are readable. Random discussion with area supervisors and operators should be held to determine whether they understand the hazards of the materials.

CUTTING, WELDING AND OTHER HOT WORK

During each loss prevention audit, the inspector should observe any hot work in progress. First, the existence of a properly completed and signed permit at the job site should be verified. Then the work practices being followed should be compared to those indicated on the permit. The inspector should also check the condition of hot work equipment and verify that warning tags are in place. The file of permits pertaining to jobs done since the last audit should be reviewed to see that proper procedures were followed.

FIRE PROTECTION AND SECURITY SURVEILLANCE

To verify that the surveillance program at the facility is functioning as intended, the inspector should spot-check guard records to be certain the guards are making tours correctly. If passive programs are in use, the inspector should verify that fire protection signaling systems are in service and have been properly tested as a part of the fire protection equipment inspection and that other protective systems are being maintained as well. The inspector should also check other elements of the passive programs such as barriers, fences and locks to be certain that they continue to perform their intended function. Where identification badges are used, the inspector should record any infractions of this system.

FIRE PROTECTION EQUIPMENT INSPECTION

The inspector should determine if inspections are being made at proper intervals, review the records for each inspection, and ascertain whether corrections are being made promptly. During the loss prevention audit, the inspector should note any deficiencies that would indicate weaknesses in the fire protection equipment inspection program.

HAZARD IDENTIFICATION AND EVALUATION

While it is not the inspector's responsibility to evaluate hazards, changes noted in the hazard level should be recorded, along with a description of the nature of the change. Hazard level changes may stem from new processes, equipment, or materials. The inspector should determine whether MOC procedures were followed in making the changes.

In addition, increased production rates may raise the hazard level. This may be the result of increases in storage and handling of hazardous materials or the operation of processes or equipment at rates above design capacity.

Some of the more common types of hazard increase include:

- Use of a new flammable solvent in place of a nonhazardous liquid;
- Warehousing or storage higher than normal, storage in aisles, or increased storage of a hazardous material such that quantities exceed protection design parameters;

- Improper types of industrial trucks being operated in hazardous areas;
- Combustible stock stored in an unsprinklered area;
- Safety instrumentation out of service;
- Ineffective operation of dust or vapor control equipment;
- Machine speedup undertaken without consideration of all the stresses involved;
- Unauthorized adjustment of safety valve, overspeed trip, axial position limit or other safety, or disabling of the devices themselves;
- Use of external fans or water spray for additional cooling of electrical equipment.

PROPER HOUSEKEEPING

During each loss prevention audit, the inspector should check that specified levels of housekeeping are being maintained throughout all areas of the facility. This check should include:

- All areas on each floor. Special attention should be given to enclosed, low-traffic areas. Areas such as elevator machinery rooms and electrical transformer/switchgear rooms should be free of storage and debris.
- Outside yard areas. Dried vegetation, debris and combustible yard storage should be kept well away from buildings, utilities and liquefied gas storage containers.
- Exposing properties. While it may not be possible to make internal building inspections, any obvious deficiencies should be noted. The inspector should make appropriate recommendations to protect the exposed part of the facility.