



# Liability & Property Pool Workers' Compensation Fund

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## RISK CONTROL SOLUTIONS

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A Service of the Michigan Municipal League Liability and Property Pool and  
the Michigan Municipal League Workers' Compensation Fund

### SAFETY & LIABILITY EXPOSURES FOR PUBLIC WORKS EQUIPMENT

#### INTRODUCTION

Many municipalities operate a wide range of equipment in maintaining public infrastructure and facilities, from heavy excavation equipment, to light-duty pickups, to handheld power tools. This equipment, when not maintained and operated properly, can represent a significant risk to employees, the public, and the municipality.

#### PERSONAL INJURY AND PROPERTY DAMAGE LOSSES

In addition to the obvious costs that personal injury or property damage losses generate, equipment-related incidents frequently result in many hidden costs. These costs include:

- Employees injured or killed on the job;
- Disruption of operations or delays in completing projects;
- Impaired ability to respond to requests for service;
- Third-party property damage;
- Increased maintenance costs;
- The diversion of funds earmarked for other purposes to pay for losses, and
- Increased insurance premiums.

For these reasons, a municipality should include an equipment operation and maintenance (O&M) program in its risk management efforts. This document outlines the major components of such a program.

#### GENERAL ISSUES

A public works equipment O&M program should always include a fleet management program for the municipality's motor vehicles. Such a program should include:

- A written policy that addresses the goals and expectations of the program.
- A statement defining accountability. Because a program cannot succeed if there is no accountability, the policy should establish that managers and supervisors are responsible for implementing and assuring employee compliance with the program.

- A policy establishing that management and supervisory effectiveness in this area should be part of the agency's periodic appraisal of performance.
- An efficient and thorough process for selecting safe and qualified operators as well as active and ongoing program for training drivers in safe operating procedures.
- A method of reporting, reviewing and evaluating all accidents.
- A program for the maintenance of equipment. Every municipality should have a preventive maintenance system in place that complies with manufacturers' recommendations as well as state and federal agencies such as MIOSHA or the Department of Transportation.
- Mandatory, periodic inspections of equipment.

Additional information on fleet management may be found on the MML website at:  
[http://www.mml.org/insurance/risk\\_resources/risk\\_solutions.html](http://www.mml.org/insurance/risk_resources/risk_solutions.html)

*Fleet Management for Public Entities, and  
Reducing the Risk of Motor Vehicle Operations (4 parts);  
A Management Brief  
Development of a Motor Vehicle Operations Policy  
Motor Vehicle Inspection and Maintenance  
Hiring and Training to Reduce Losses*

## **SPECIFIC ACTIONS TO REDUCE YOUR RISKS**

### **Equipment Purchases**

Before purchasing a piece of equipment, the following items should be considered:

- Maintenance requirements - are requirements, such as maintenance intervals, reasonable?
- The cost of maintenance - is it affordable? Ask the manufacturer or supplier for a five-year projection.
- Availability of affordable and prompt service from the vendor or another outside source. There may be service needs that your staff cannot perform.
- The past customer service history of the manufacturer and supplier. Ask the manufacturer or supplier for references.
- How long the equipment has been in production. This is an important consideration in evaluating product reliability.
- Design flaws that have resulted in a recall.
- Whether the manufacturer or supplier has a history of lawsuits or claims.
- The adequacy of the manufacturers or supplier's warranties or performance bonds?
- The availability of parts as well as shipping distances and times.

- The manufacturer or supplier's willingness and ability to provide training to operators and mechanics.
- Whether the manufacturer has a system in place to notify you of any updates or design problems?

A detailed bid specification that will be submitted to bidders should always be prepared for major equipment purchases. Suppliers that do not meet your stated equipment requirements should be required to explain how they do or do not comply with your specifications. Reject any bids that do not adequately explain how they meet your specifications. This should result in the purchase of safe and effective equipment instead of simply selecting the bid that is lowest on the face, but may lead to additional costs down the road.

### **Equipment Maintenance**

Public works equipment is somewhat specialized and can require specialized repairs and maintenance procedures. The mechanic who routinely diagnoses and repairs regular production vehicles may not have the qualifications, knowledge, or skills necessary to maintain or repair specialized equipment. Qualified mechanics are those individuals who are factory authorized or trained, have prior experience, and have the proper tools. There is no room for guesswork. Inadequate or faulty repairs and poor maintenance can result in costly accidents. If your employees do not have the necessary qualifications, then train them or subcontract the repair and maintenance work to someone who has the appropriate qualifications. If you choose outside vendors for repair and maintenance work, check their references before you allow them to work on your equipment.

Assure that mechanics who perform maintenance work know and follow manufacturers' recommended procedures. They should use only factory-authorized parts and components and provide service at factory recommended intervals. If equipment will operate under extreme conditions, it may need additional maintenance. Contact the manufacturer in these cases. In addition, state and federal laws sometimes have specific requirements for equipment, including refuse trucks, platform trucks, buses, semi-trucks and trailers.

The Equipment Maintenance Supervisor should review maintenance procedures to determine those that the technician should complete and those that the operator can perform more efficiently. Usually, the operator only performs day-to-day light maintenance procedures such as greasing fittings or other routine maintenance. Whether technicians or operators perform the task, it is important to assure that they are aware of their responsibility and that they perform it as required. A detailed, written maintenance checklist should always be used rather than relying on memory. Operators should be prohibited from attempting to make repairs in the field, particularly on airbrakes, steering, or drivetrain components. When using jack stands in maintenance work, vehicle wheels should always be chocked.

It is also a good idea to talk to the operators and the technicians to find out about any high maintenance areas or required procedures that are either not practical or extremely difficult to perform. These are usually the areas that do not receive adequate attention but can cause problems later. For example, if a piece of equipment has a fitting that is exposed to high levels of dirt and requires constant lubricating, you need to correct the situation. You should contact the manufacturer to find out how to address the situation. NEVER modify the equipment without the manufacturer's

assistance. If the manufacturer is no longer in business or if the equipment is so old that the manufacturer no longer services it, consider replacing the equipment.

Document all maintenance and repairs in writing and retain documentation in an equipment file. Require mechanics to document completed repairs and maintenance as well as the parts they used. Many communities are now using computer software to collect this information. If you are one of these communities, make sure you back up your files weekly.

The equipment supervisor should conduct random inspections of repairs to assure quality. New employees may initially require more oversight. Supervisors should use this time to train rather than to criticize. Supervisors should check equipment with frequent problems every time that it is serviced or repaired.

The guide to Fleet Management for Public Agencies includes a comprehensive sample repair and maintenance procedure and can be found online at:

[http://www.mml.org/insurance/risk\\_resources/risk\\_solutions.html](http://www.mml.org/insurance/risk_resources/risk_solutions.html)

## **Equipment Inspection**

The purpose of an inspection is to assure that the equipment is working properly and in accordance with manufacturer's specifications. Mechanics and operators should use a written checklist to assure that they have checked every appropriate item and to document that the inspection took place. The Fleet Management for Public Agencies guide contains sample checklists.

Agencies should perform two types of inspections: a regular service inspection and a pre-trip inspection.

A regular service inspection is very thorough and conducted by your mechanic. Mechanics should follow the manufacturer's recommended routine inspection procedure when servicing equipment. This includes checking the operation of hydraulics, hoses, belts, controls, and safety equipment. Include the documented inspection in your maintenance file.

A pre-trip inspection is conducted daily, usually by the operator. Operators should check all controls, safety equipment, lights, tires, and brakes every day before they drive vehicles from your yard. If the pre-trip inspection reveals that an essential component is not working or needs repair, the operator should not use the equipment until it is serviced or repaired. Operators should also inform the supervisor of a needed repair at the end of the day.

The supervisor should periodically conduct a random review of the required checklists to assure that mechanics and operators are completing them consistently.

If operators or mechanics become aware of any design problems that could result in equipment malfunction or injury to employees or the public, remove the equipment from service immediately and contact the manufacturer for assistance. Prohibit the operation of any equipment that might be unsafe until a qualified mechanic has checked it and made any necessary repairs.

## **Training**

Never allow any employee to operate or repair equipment without adequate training. Always conduct the training with the assistance of the manufacturer or supplier if possible. Training should consider state and local laws that cover training requirements for specific equipment. For example, there are regulations that apply to fire trucks, lift trucks, and aerial trucks. The National Fire Protection Association (NFPA) and the Michigan Occupational Safety and Health Act (MIOSHA) have specific requirements regarding training.

Always document training and list all employees who attended the sessions. Always give a post-test to assure that participants understood the training. The municipality should provide refresher courses regularly or, at a minimum, whenever improper use has resulted in an incident. However, no matter how thorough or effective the training, there may be employees who refuse to follow procedures. Progressive discipline is the appropriate action in such cases.

If your municipality is involved with a project that uses volunteer labor, these volunteers should be properly trained on the use of any equipment they may use, the same as an employee. It is strongly recommended that volunteers not be allowed to operate heavy equipment or power tools, such as chain saws or other cutting tools.

## **Emergency Procedures**

Despite your best fleet management and training efforts, equipment may malfunction. Most of the time, equipment failure is no more than an inconvenience. Sometimes, however, it creates an emergency situation that can result in the injury or death of an employee or a member of the public, property damage, and the disruption of services or of traffic flow.

Employees should receive training on what to do should their equipment fail. Training should include instruction on when they should drive the equipment to the garage or when they should park it and wait for a mechanic to evaluate the problem. Usually, the operator can make this decision. However, if driving the equipment back to the garage has the potential to cause an accident or injury, the operator should communicate this to his or her supervisor and wait for guidance.

Some equipment can malfunction and leave the operator in a precarious position, such as being stuck in a lift truck. Most manufacturers of equipment with special functions provide emergency unloading procedures. Although the operator may not be in immediate danger, an untrained employee who attempts to operate the equipment may put themselves in serious danger.

Employees who operate this type of equipment should receive instruction in operating it according to the manufacturer's guidelines. A copy of the emergency procedures should be in the glove box or permanently attached near the controls. If your community has equipment that can trap an employee, you should review proper operating procedures for the equipment with both police and fire departments. While they will not necessarily be experts or remember the operating procedures, reviewing them once will, at least, give department members some familiarity. Each piece of equipment that can trap an employee should have clear rescue procedures posted near the equipment controls. Equipment that can entrap an employee may be considered a confined space and therefore may require special procedures before entry. A lockout procedure may also be required before an employee enters an area of the equipment to prevent an accidental start-up of

the power source. An operator should never be allowed to enter an area considered to be a confined space or requiring special safety precautions without the assistance of other employees.

It is a good practice for every piece of equipment to have a means of communication. This allows the operator to report on his or her progress and to summon any help needed in emergency and non-emergency situations. If an emergency occurs that results in an injury, the amount of time that it takes for the rescue team to assist the operator makes a significant difference.

## **Other Issues**

It is wise to store equipment indoors, or at least in a fenced area to prevent vandalism. Avoid storing the equipment next to buildings, fences or fuel storage areas. When parking equipment outside of the garage area, always park legally, lock the equipment, and remove the keys from the ignition. Operators should never leave equipment running when they take their break. If leaving the equipment overnight on a street or highway is necessary, the operator should set up adequate warning lights. This is especially true if the equipment is large.

Your written O&M policy should state that employees or contractors may not use the equipment for their own use. This rule should be strictly followed and violations punished to limit potential third-party liability if an employee does use equipment for personal use and injures a member of the public or damages their property. Equipment should also not be loaned out to third parties for work on private property. This may put the municipality at risk of loss if the equipment is damaged or someone is injured and may not be covered under your insurance policy.

Equipment should have adequate safety equipment such as seat belts, fire extinguishers, first aid kits, warning flares, flashing lights, or back-up alarms. To prevent accidents, operators should always display warning devices when equipment breaks down in the path of other traffic. They should move equipment away from the traffic as soon as possible.

For insurance purposes, you should conduct an inventory of your equipment. While you should discuss coverage issues with your marketing representative, having your equipment properly inventoried and listed in your insurance policy will assure that it will be protected if a loss occurs.

## **CONCLUSION**

This document outlines the major components of an effective equipment operations & maintenance program. The plan includes many suggestions including having a comprehensive fleet management program, purchasing the safest but most effective equipment, maintaining equipment to operate as designed, having a thorough inspection program, and training employees on how to properly operate the equipment, as well as some other special issues as they relate to equipment exposures. Municipalities are encouraged to review this, as well as other Loss Control resource documents that pertain to operating motor vehicles or powered equipment, with their equipment managers.

For more information, contact the League's Loss Control Services, or MML Risk Management Services.



### Important Contact Information

MML Risk Management Services	734.662.3246 or 800.653.2483
Loss Control Services	800.482.0626

**Note:** This document is not intended to be legal advice. It does not identify all the issues surrounding this particular topic. Public agencies are encouraged to review their procedures with an expert or a competent attorney who is knowledgeable about the topic.

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### Self-Assessment

To reduce the exposure to claims of injuries or property damage as a result of the use of public works equipment, municipalities should conduct the following self-assessment. This self-assessment will help you address the key issues related to this exposure. Additional self-assessments are available to assess other motor vehicles by contacting the League’s Loss Control Services.

#### Does Your Organization:

1. Have a comprehensive fleet management program?

**Yes**     **No**    →



#### Do you:

- Have a written policy that addresses the goals and expectations of the program?
- Hold managers and supervisors accountable for the success of the program?
- Have an efficient system for selecting safe and qualified operators?
- Train operators on how to operate the equipment?
- Investigate all accidents?
- Assure that the equipment is maintained as required by the manufacturer as well as state and federal law?
- Conduct regular pre-trip and post trip inspections of equipment?

2. Do you purchase the best equipment you can buy with the available budget?

**Yes**     **No**    →



#### Do You Evaluate:

- The manufacturer and the supplier?
- Maintenance requirements, costs and practicality?
- The longevity and reliability of the equipment?
- Recommendations from past users of the equipment?
- Supplier response to clear and detailed specifications?
- Warranty claims?
- Whether your staff will be able to service the equipment?
- Bids to find the lowest qualified bidder rather than the low bid?



3. Do you have an effective maintenance program for public service equipment?  
 Yes     No →



- Do you:**
- Have maintenance staff that is qualified to work on your specialized equipment?
  - Assure that maintenance staff receives factory authorized training?
  - Assure that contractors who work on your equipment are factory authorized or trained?
  - Check references of vendors who work on your equipment?
  - Always follow manufacturers' recommendations?
  - Use only factory authorized parts and components?
  - Review NFPA, DOT, or MIOSHA requirements for very specialized equipment servicing?
  - Assure that employees and contractors are following maintenance procedures?
  - Document all maintenance and repairs?
  - Pay special attention to high maintenance or problem areas?
  - Modify equipment only with the manufacturer's approval?
  - Conduct random inspections to assure the quality of the repairs?

4. Do you inspect your equipment to assure that it is safe?  
 Yes     No →



- Do you:**
- Require operators to complete a written pre-trip inspection?
  - Do you regularly test mechanical and hydraulic controls, hoses, and safety equipment?
  - Bring design problems to the manufacturer's attention?
  - Remove equipment that is believed to be unsafe during an inspection from service and lock it out if necessary?

5. Do you properly train your mechanics and operators?  
 Yes     No →



- Do you:**
- Require training before an employee can operate or repair equipment?
  - Retrain or discipline employees who operate equipment in an unsafe manner?
  - Document your training?
  - Assure that training meets state and federal laws pertaining to the equipment or operation?
  - Assure that operators have appropriate licenses?

6. Does your organization know what to do if incidents or emergencies occur?

**Yes**     **No**    →



- Do you:**
- Store equipment in a fenced location?
  - Lock equipment whenever it is parked and unattended?
  - Shut off equipment and remove the keys when it is left unattended?
  - Park equipment safely when you leave it unattended?
  - Prohibit the use of your equipment for non-municipal use?
  - Assure that your equipment has adequate safety equipment?
  - Inventory your equipment?

7. Does your organization address other issues?

**Yes**     **No**    →



- Do you:**
- Train employees to take proper action during an emergency?
  - Train other employees so they know how to operate the equipment if required?
  - Review emergency operating procedures with your police and fire departments?
  - Post emergency procedure instructions in a clearly accessible location on equipment?
  - Provide your employees with a means of requesting assistance such as a radio?
  - Require employees to practice the emergency procedures?
  - Follow confined space or lockout procedures when required?

## Conclusions

- ☺ If you were able to honestly answer “yes” to all seven questions and your organization is following most or all of the suggested practices, then your organization has reduced its exposure to future workers’ compensation and liability claims resulting from an equipment loss. You should congratulate yourself.
- ☹ If you are unable to answer “yes” to any of the seven questions, your organization may have an exposure to claims from employees and the public resulting from your organization’s practices. Missing components of one or more of the seven recommended practices may also indicate a deficiency in your current program. You should take one or more of the following actions:
- Correct any deficiency that may exist;
  - Contact your specialist in fleet management;
  - Contact the MML Risk Management Services at 734.662.3246 or 800.653.2483; or
  - Contact the League’s Loss Control Services at 800.482.0626.

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